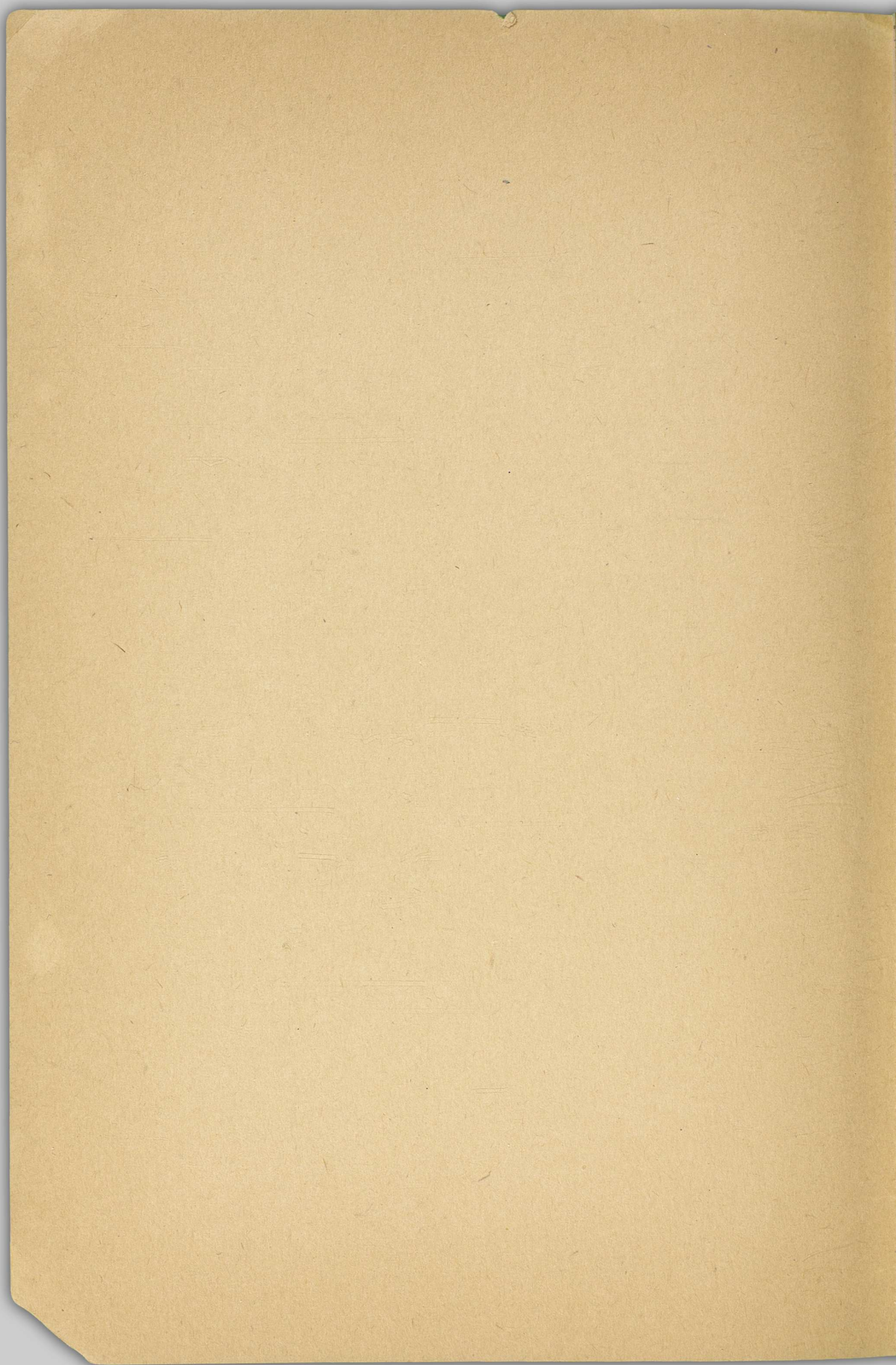


THE  
PEACE RIVER  
DISTRICT  
CANADA









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*Photo by F. H. Kitto*

CHILDREN OF SHERIDAN LAWRENCE IN THEIR GARDEN AT FORT VERMILION

*Frontispiece*



# The Peace River District

Canada

## *Its Resources and Opportunities*

By

F. H. KITTO, D.L.S., M.E.I.C.

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Prepared under the direction of the Superintendent  
of the Natural Resources Intelligence Branch

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In the preparation of this report valuable assistance has been received from officials of the Federal departments. Mr. Charles Camsell, Deputy Minister of Mines, and Mr. C. H. Attwood, of the Dominion Water Power Branch, have prepared the chapters dealing with mineral deposits and water powers, respectively. The Director of Experimental Farms, The Director of Forestry and the Commissioner of Dominion Parks have revised those portions of the report relating to their work. The assistance rendered by these and other authorities is gratefully acknowledged.

Department of the Interior  
Canada

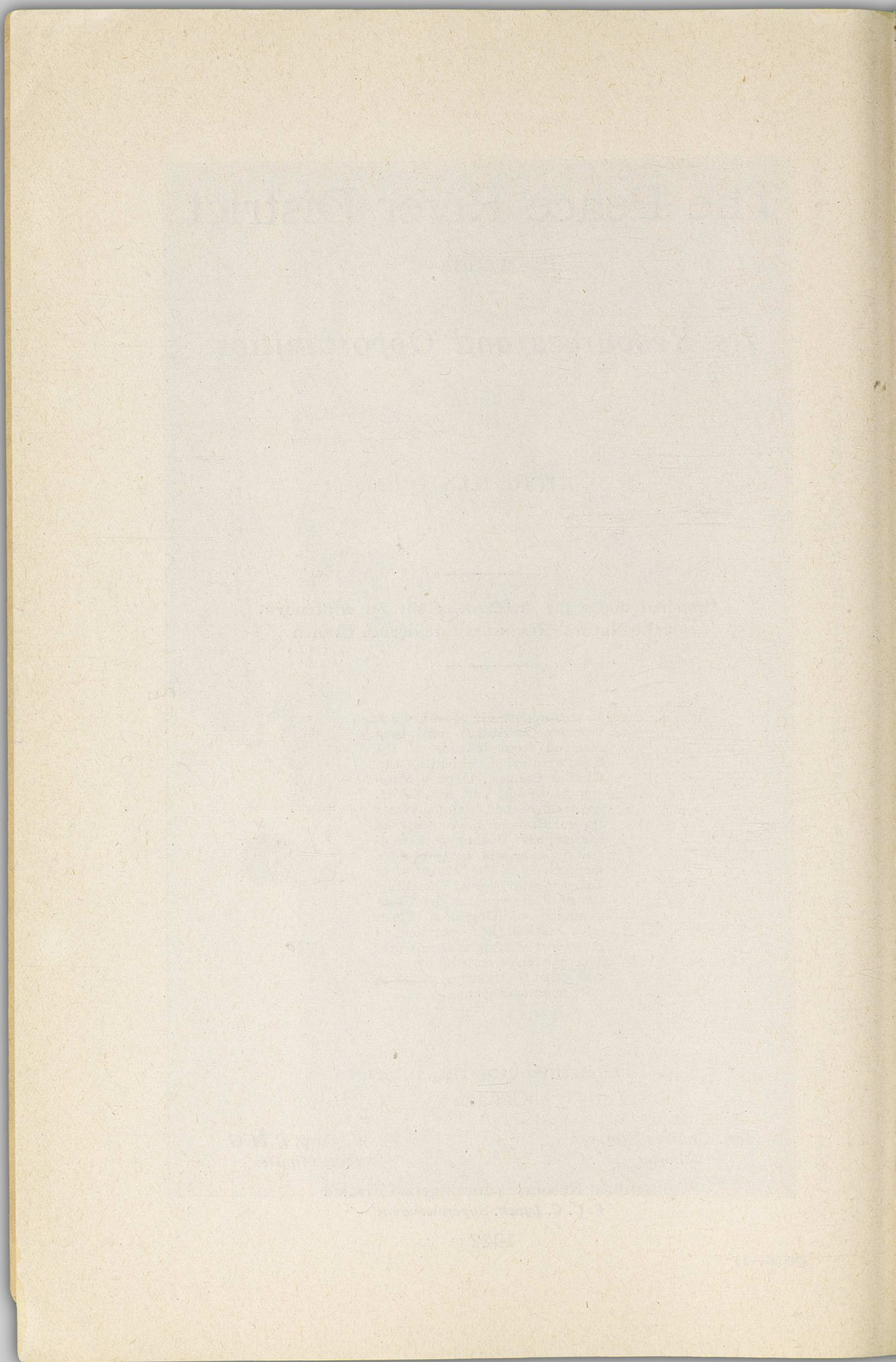
*Hon. Charles Stewart*  
*Minister*

*W. W. Cory, C.M.G.*  
*Deputy Minister*

Natural Resources Intelligence Branch  
*F. C. C. Lynch, Superintendent*

1922







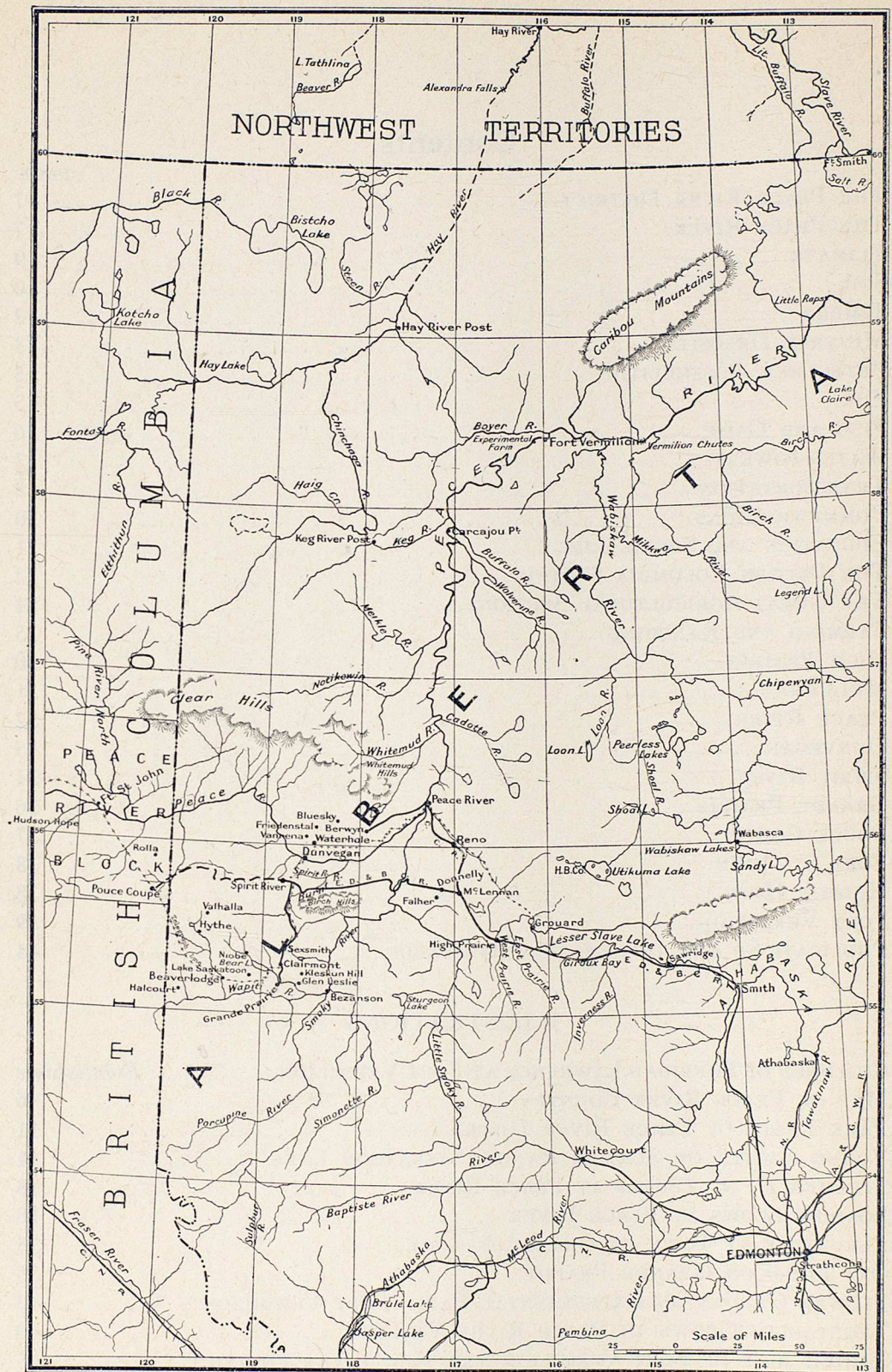
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THE PEACE RIVER COUNTRY

Prepared in N.R.I. Branch



## The Peace River District

By

F. H. KITTO, D.L.S., M.E.I.C.,

*Exploratory Engineer, Natural Resources Intelligence Branch*

THE Peace River district of Canada has been for many years the subject of interest and speculation. Alluring tales from adventurous pioneers of its wonderful resources, its charming climate and varying scenery, had long since lent to the district that charm of romance which distance and uncertainty blend with glowing promises. Now the land so long famed by legend and mystery is becoming a reality. Modern transportation has brought it to our doors, and searching trials and tests are proving it to be all and more than was represented. The tales were not myths: the truth was but partly told; and new treasures of the district are daily being unfolded before our eyes.

This district, the drainage basin of the Peace river, lies in the northern parts of the provinces of Alberta and British Columbia. It extends approximately from latitude  $54^{\circ}$  to  $59^{\circ}$  north and from longitude  $112^{\circ}$  to  $125^{\circ}$  west, and is a part of the great Mackenzie River drainage basin. Sloping down from the Rocky mountains, it sweeps eastward and northward over a huge plateau extending to lake Athabaska and the Athabaska and Slave rivers.

The area of the Peace River drainage basin exceeds 115,000 square miles, of which approximately 66,395 square miles are in Alberta and 49,367 in British Columbia. Of this large area, the greater part within the province of Alberta, especially the territory lying immediately on either side of Peace river, is proving suitable for agriculture, either for mixed farming or ranching. To this must be added a block of three and a half million acres known as The Peace River block, lying within the province of British Columbia and adjacent to Alberta. The balance of the area in British Columbia, while containing much valuable agricultural land in various valleys, is principally a mountainous region. With those portions of the area in Alberta lying at the headwaters of the various tributaries of the main river, it forms a vast area of mineral and timber resources, the extent of which is only beginning to be realized.

### The Peace River

The Peace river itself, beautiful and majestic, has its origin in these eastern slopes of the Rockies of northern British Columbia. It flows through mountain



canyons and broad prairies for some eight hundred miles till its waters are joined by those of the mighty Athabaska, to sweep northward to Great Slave lake. This lake, a veritable inland ocean, feeds the Great Mackenzie river, which flows northward a thousand miles and drains an area of over half a million square miles.

Two large mountain rivers, the Finlay and the Parsnip, the one flowing southerly, the other northerly, unite their waters at Finlay at the foot of mount Selwyn, towering 3,000 feet above them, and the large river thus formed by their confluence is known as the Peace. From this inspiring source, with an initial width of 300 feet, the Peace runs in an easterly direction, through the mountains and foothills to burst forth at Hudson Hope, on the upper limit of the Peace River block, into the vast plateaus it drains.

Below Hudson Hope it widens out and flows with a uniform current through a valley cut deep across the surrounding plains. Fort St. John, British Columbia is on its left limit in the Peace River block. Dunvegan is also on its left bank, in Alberta, and here is located a ferry where the old wagon road from Edmonton crossed to continue to lake Saskatoon. Finlay, Hudson Hope, Fort St. John, and Dunvegan are still practically trading posts, but little changed from early days. Some sixty miles below Dunvegan, the old settlement of "Peace River Landing," or "Peace River Crossing," has given way to the new thriving town of Peace River, now linked with steel to Edmonton and the "outside."

This point on the river was formerly reached from Edmonton by a two or three weeks' trying stage journey over a trail that spelt discomfort and hardship at every turn. Now one can travel by rail, with all the comforts of dining and sleeping cars, in twenty-six hours over practically the same route. From here, modern steamboats ply up and down the river, a ferry crosses it, and a giant steel bridge has recently been built to span it, and allow the rails to push farther west and north.

From "The Crossing," as this town is locally known, the river's course is almost due north some two hundred and fifty miles to the old historic trading post of Fort Vermilion, where another ferry has recently been provided; thence easterly again to the rapids and falls of Vermilion chutes. Navigation is here interrupted again. Below the chutes, the river winds northeasterly till it is joined near the northwest end of lake Athabaska by the waters of this lake and the Athabaska river. From the confluence of these great waters, the large river formed takes a new name, the Slave, and the Peace loses its identity in the union. The Slave flows northerly to Slave lake, broken once by a series of rapids from Fitzgerald to Fort Smith, on the northerly boundary of Alberta.

It will be seen that the Peace is divided into three great sections. Above Hudson Hope, it is navigable from the head of Rocky Mountain canyon to Finlay. Navigation also extends ninety miles additional up the Finlay and some distance up the Parsnip. From Hudson Hope to Vermilion chutes, steamers ply regularly during the open season. Below the chutes, the river is navigable to its mouth. Navigation also extends down the Slave as far as Fitzgerald, as well as on lake Athabaska and up the Athabaska river as far as McMurray.



As shown in the following table, the Peace itself is some eight hundred miles in length. It varies in width from three hundred feet at its head to a mile and a half at the chutes.

TABLE OF DISTANCES, PEACE RIVER\*

Sections	From	To	Miles (Approx.)
1	Head (Finlay Forks).....	Head of Rocky Mountain Can- yon.....	72
2	Head of Rocky Mountain Canyon	Hudson Hope (foot of Canyon).	20
3	Hudson Hope.....	Fort St. John.....	51
4	Fort St. John.....	Dunvegan.....	117
5	Dunvegan.....	Peace River Crossing.....	61
6	Peace River Crossing.....	Mouth of Notikewin.....	96
7	Mouth of Notikewin.....	Carcajou Point.....	59
8	Carcajou Point.....	Fort Vermilion.....	93
9	Fort Vermilion.....	Vermilion Chutes.....	50
10	Vermilion Chutes.....	Mouth Slave River.....	188
		Total.....	807

\*Supplied by Topographical Surveys Branch, Dept. of the Interior, Ottawa.

### Climate

The climate of the Peace River district is excellent, and remarkably moderate considering the latitude. The air is pure and bracing: in winter, clear and crisp; and, in summer, dry and balmy. Extremes of temperature, sudden changes, and severe storms are very rare. The winters are by no means mild but are very dry, with clear skies, little snowfall, and few winds. Blizzards are unknown, but the mild Chinook winds occasionally sweep through the mountain passes from the warm Pacific, giving pleasing respites of balmy days to break the monotony of a steady cold. Spring comes early and quickly; the snow soon disappears, and the ground is dry in a few days. Ice on the lakes and rivers breaks up during the latter part of April or early in May. Seeding usually begins early in April, sometimes in March, and, at Fort Vermilion, about the first of May. Most of the rainfall occurs in June and July. The average precipitation for the full year is about twelve or thirteen inches.

The summers are remarkable for their long days and short nights. For three months, there is almost continual light, the nights being merely a couple of hours semi-darkness, except when the sky is overcast. The days are warm.

At Fort Dunvegan, the last light frost of spring occurs, on the average, on June 11th, and the first light frost of autumn, on August 25th. At Fort Vermilion and Peace River Crossing, the corresponding dates are June 16th, August 13th; and June 24th, August 27th.

Harvest commences about the middle of August. September is an especially pleasant month. The days are still warm, but the nights grow colder and the flies disappear. Life in the woods is at its best during this month.



October brings heavier frosts, and the ice forms late in this month or early in November. Winter can usually be expected early in November, though mild weather until Christmas is not uncommon.

The rigours of the climate need not be feared, but houses should be substantially built to withstand the cold spells. Warmly clad, a person enjoys the out-of-door life at any time during the winter. Taken the year round, the climate is healthy and pleasant, and conducive to active and vigorous outdoor life.

The following tables, supplied by the Meteorological Service of Canada, give some interesting information obtained at different points throughout the district.

It should be noted that the meteorological stations for which data are given (with the exception of Grande Prairie) are situated on the rivers considerably below the level of the plain. For this reason, the data given may not be at all seasons truly representative of conditions on the plains.

## METEOROLOGICAL RECORDS

## FORT VERMLION

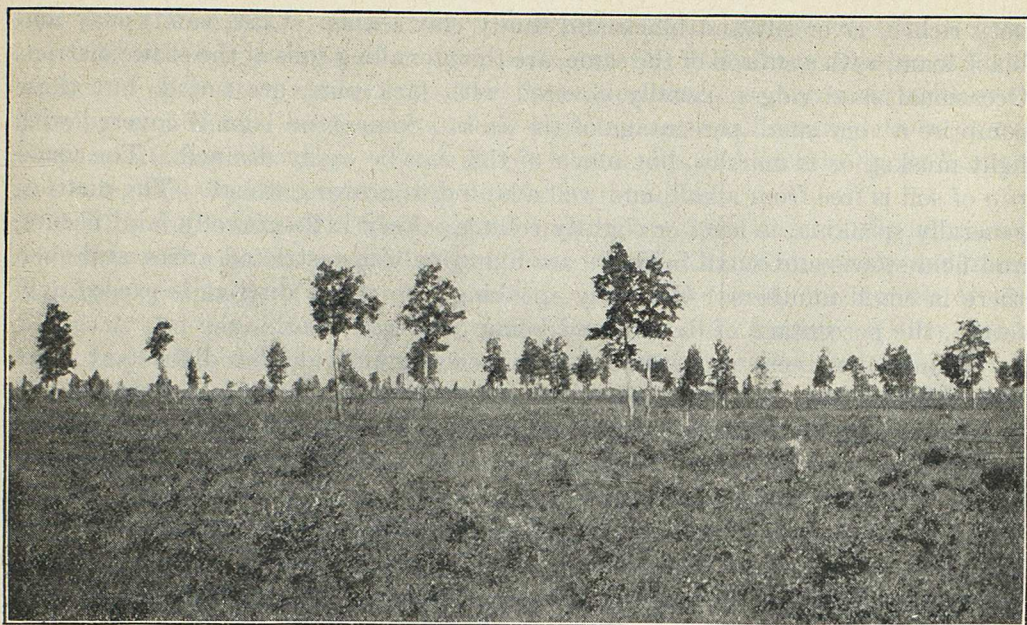
Month	Temperature, 1905-21		Precipitation, 1905-21		Sunshine			
	Average, 17 years	1921	Average, 17 years	1921	Possible hrs. per day	Actual h. per day, average of 10 yrs.	Actual hrs. per day, 1921	Percent. possible duration, 1921
January.....	-14.3	-14.9	0.53	0.70	7.1	2.3	2.5	35
February.....	-4.1	-4.6	0.32	0.78	9.3	4.0	3.4	37
March.....	8.2	0.6	0.53	0.05	11.5	5.6	5.5	48
April.....	31.3	33.8	0.65	0.90	14.4	7.0	8.2	57
May.....	47.2	46.2	0.91	0.39	16.8	8.2	7.9	47
June.....	55.1	54.5	2.05	3.46	18.1	9.4	7.7	42
July.....	59.7	60.9	2.24	2.10	17.4	9.3	10.0	57
August.....	55.9	54.4	1.87	3.63	15.3	8.2	5.4	35
September.....	45.6	46.2	1.40	1.47	12.7	6.5	7.3	57
October.....	31.4	38.2	0.85	0.78	10.2	4.1	3.2	31
November.....	10.1	4.1	0.55	0.50	7.7	2.2	1.1	14
December.....	5.8	0.0	0.38	0.15	6.4	1.9	1.9	30

PEACE RIVER CROSSING, 1908-14, 1918-21					GRANDE PRAIRIE EXPERIMENTAL FARM, 1913-21			
Month	Temperature		Precipitation		Temperature		Precipitation	
	Average, 10 years	1921	Average, 10 years	1921	Average, 8 years	1921	Average, 8 years	1921
January.....	-6.1	-3.6	0.98	0.25	3.1	.....	1.62	.....
February.....	4.0	11.2	0.44	0.25	10.0	19.0	0.82	0.97
March.....	17.2	12.6	0.50	S.	17.4	18.8	1.30	1.20
April.....	38.9	47.4	0.49	1.30	36.5	39.5	0.58	0.03
May.....	51.1	53.2	1.70	2.27	45.6	48.2	1.91	1.65
June.....	57.1	58.9	2.83	1.34	54.3	54.9	1.85	2.04
July.....	61.1	60.5	2.17	4.59	56.6	58.2	2.02	1.89
August.....	58.6	59.5	2.07	4.28	56.4	55.3	1.56	2.51
September.....	50.7	52.0	1.22	1.80	48.2	45.5	1.18	2.69
October.....	37.1	47.2	0.57	0.59	36.7	42.6	0.87	0.67
November.....	16.6	14.6	0.51	S.	24.4	65.5	0.71	0.91
December.....	6.0	9.2	0.65	0.77	10.1	17.6	1.16	0.60

## Soil

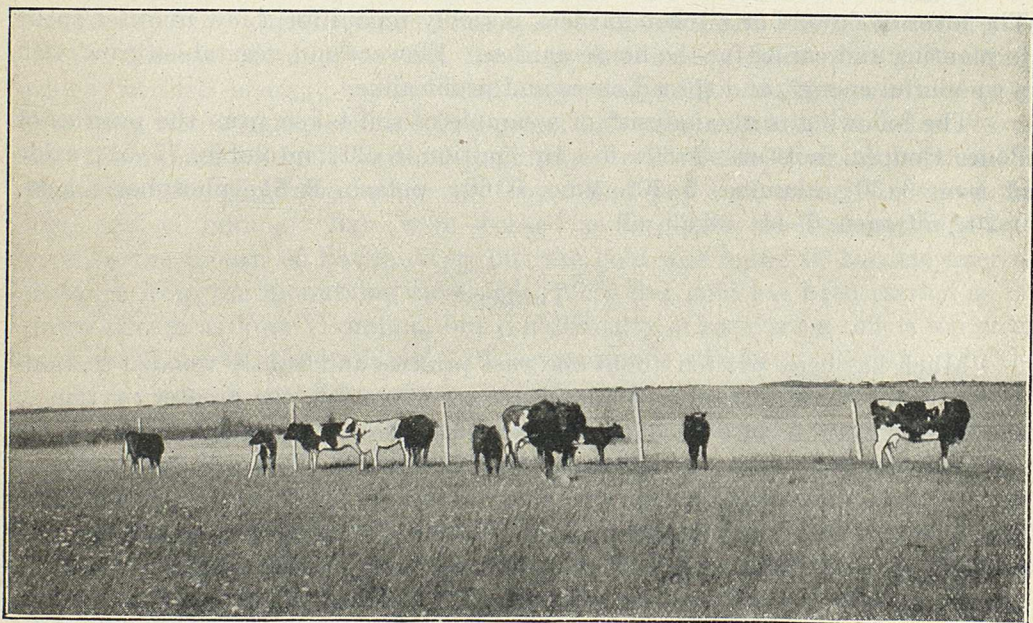
The soil of the greater part of the district is especially suitable to the growing of grains, grasses, and vegetables. The valleys of the upper sections are





*Photo by F. H. Kitto, D.L.S.*

PARK LANDS OF PEACE RIVER DISTRICT



*Photo by F. H. Kitto, D.L.S.*

YOUNG CATTLE ON SUMMER RANGE AT SASKATOON LAKE



very rich in river silt and black and sandy clay loams. Clay, sandy clay and black loam, with a subsoil of the same, are the prevailing soils of the entire district. Occasional sand ridges, usually covered with jack pine, are found, but these comprise a very small percentage of the area. Some good land is covered with light muskeg or is marshy, but much of this can be easily drained. The usual run of soil is free from alkali, and well adapted to growing wheat. The district, generally speaking, is level or slightly rolling. Very little gravelly land occurs, and field stones and small boulders are found only in restricted areas, and even there in small numbers. Generally speaking, the entire district is exceedingly fertile, the percentage of barren land being practically nothing.

Numerous rivers and streams of pure water provide the district at large with this necessary resource. However, the question of obtaining water on each quarter-section, or in every small locality, requires careful study. There are considerable areas of plateau lands where surface water is not found at all seasons of the year and where the underground supply lies at a considerable depth. Many artificial reservoirs, created by building dams across coulees or ravines, have been made to serve the needs of the earlier years till wells could be secured. In the Fort Vermilion district, good water is usually found at depths of from 18 to 40 feet. Other sections find water at depths of 50 or 60 feet, while less favoured districts do not find water above the 100-foot level. A number of well-drilling rigs are now at work in the drier areas and do not appear to meet with any difficulty in obtaining satisfactory supplies of this vital fluid.

Richly productive and easy to till, the soil of this district is inviting to the farmer and gardener. Bountiful yields, with a minimum of labour, tend to encourage the increase of production and maintain the quality of product. The lover of flowers or kitchen gardens is richly repaid for a few minutes spent in planting and caring for the house garden. Flowers and vegetables grow with a wonderful energy, and spread cheer and profit alike.

The following is an analysis\* of a sample of soil taken from the prairies of Pouce Coupé: moisture, 2·80; loss by ignition, 8·20; insoluble, 77·61; oxide of iron, 3·50; alumina, 5·70; lime, 0·60; potash, 0·81; phosphoric acid, 0·20; nitrogen, 0·44; alkali, nil.

### Timber

Much has been written about the vast prairies and lightly wooded sections of the Peace River district. While these are extensive, the greater portion of the district, taking into account the mountain slopes and deep valleys of its outer bound, is thickly wooded with valuable timber. The principal varieties include fir in the mountains, spruce, pine, tamarack, birch, poplar, cottonwood, and willow. The upper reaches of the district, including the mountains and foothills, are especially well wooded, but timber of good dimensions is found in all the valleys throughout the entire district. Many large islands occur at intervals along the Peace, and these are all thickly wooded with fine straight spruce. Valuable timber limits on the Wapiti are yet untouched. The North

\*Supplied by Dept. of Lands, Victoria, B.C.



and South Pine rivers, the Smoky, the Whitemud, and the Notikewin (Battle) are well wooded; while farther east and north the Wabiskaw contains millions of feet of untouched timber. At Fort Vermilion there are three sawmills, with planing and shingle machines, and all building material required there is cut and manufactured locally. Peace River is well supplied with mills, and others are being installed throughout the district as required.

With the continued settlement and opening up of the district, the lumbering industry will assume greater proportions. While the hard woods and more valuable specimens of soft woods are not generally found, the wealth of the forests is still very great. Spruce is extensively used for lumber. Other woods yield logs for building, fencing materials, ties, mine timbers, and fuel. Much pulpwood is available. Extensive forests of beautiful white poplar also exist. Except on the open prairies, a sufficient supply of timber is found to meet all the requirements of the settler for many years.

#### Mineral Deposits\*

Prospecting for mineral deposits in the basin of Peace river has nowhere been of an extensive character, and by far the greater portion of the basin has never been visited by the prospector. Both metallic and non-metallic deposits are, however, known to occur in considerable quantities, the former in the region west of the Rocky mountains, namely, in the basins of Finlay and Omineca rivers, and the latter in the eastern slope of the Rockies and the region to the east of them.

The great rush of placer miners into the Cariboo gold fields in 1860 led to the discovery of gold on the Parsnip river in 1861, and in the following year on the Finlay. Soon after this the famous Omineca fields were discovered, which, in their history, have yielded about one million dollars' worth of gold. The easy rich diggings of this field were, however, exhausted in a few years, and the miners gradually pushed their way down stream, working bars on the Peace and its tributaries wherever they found pay rich enough to stand the high cost of mining. Bars were worked as far down as Hudson Hope and even to the mouth of Battle river, but the gold was found to become finer as distance from the mountains increased. Very fine gold has been carried as far down stream as Fort Vermilion, but the difficulty of recovering this is too great to make it worth while mining. Placer mining is still being carried on in the upper waters of the Peace river, but the total production is comparatively small, and until transportation is provided that will allow the large-scale operations of dredging or hydraulicking to be carried on, a larger yield is not to be expected.

Gold quartz veins occur at mount Selwyn and on Omineca river, and large veins of silver-bearing galena have been known for many years near Manson. No actual lode mining has, however, yet been undertaken.

Seams of coal of excellent quality are exposed in Rocky Mountain canyon above Hudson Hope. Most of them are thin but one 5-foot seam was found

\*By CHARLES CAMSELL, B.Sc., *Geological Survey of Canada.*



nearly opposite the mouth of Johnson creek. A sample from this seam gave the following analysis: moisture, 0.9; ash, 3.3; volatile matter, 18.5; fixed carbon, 77.3 per cent.

Coal measures also outcrop to the south of Pine river and on the headwaters of Smoky river. Coal occurs on Smoky river and on its tributaries Sulphur river, Muskeg river, and Sheep creek, and a number of good workable seams have been exposed in prospecting. Seams on the Smoky have been carefully examined and analyses of samples show them to consist of a good quality of bituminous coal, with at least one seam that may be classed as anthracite, comparable with the best coal mined at Bankhead.

Following are analyses of some of the best samples:

<i>Moisture</i>	<i>Volatile matter</i>	<i>Fixed carbon</i>	<i>Ash</i>	<i>B.T.U.</i>
2.3	12.5	78.2	8.0	13,862
0.3	19.8	73.0	6.9	15,070
0.9	13.4	81.7	4.0	14,706
2.9	14.8	80.1	2.2	13,800
0.9	14.7	82.5	1.9	14 987

The areal extent of the fields and the high quality of the coal indicate that in this part of the Peace River district there is one of the most important coal fields of western Canada. Coal of poorer quality has been found lower down the Peace at the town of Peace River and in Red Willow river.

Springs of natural gas and tar rising to the surface at several points in the valley of Peace river suggest that reservoirs of both these substances exist at depth in the rocks below. Drilling has been undertaken at a number of points in search of oil. Several wells have been drilled in the vicinity of the town of Peace River and a little oil was struck. Natural gas has been found in a number of wells, and a very heavy flow was struck at Pouce Coupé, but no producing oil field has yet been opened.

Beds of gypsum, ten to fifty feet in thickness, are exposed on both banks of Peace river near Peace point for a distance of 15 miles, and it has been estimated that there are over 217,000,000 tons of this material adjacent to the river, much of it very favourably situated for mining. Salt is associated with the gypsum in the country north of Peace point, and some hopes have been entertained for the finding of potash in association with the salt and gypsum, as it is in certain parts of the world.

While all the mineral deposits of the Peace River district are still in an undeveloped state, it has been fairly satisfactorily proved that there is a large amount of coal, gas, and gypsum, and the settlers of that district can be assured of an adequate supply of coal and gas for fuel and power, and of gypsum for building purposes, as soon as there is sufficient demand to warrant the development of these deposits.



### Petroleum Possibilities

Great interest in the oil possibilities of Northwestern Canada has been aroused by the discovery of oil some 40 miles north of Fort Norman on the Mackenzie river by Imperial Oil, Limited, a subsidiary of the Standard Oil Company of New Jersey. The successful well, known as the Discovery Well, was brought in on August 25, 1920, at a depth of 783 feet. As no provision had been made for storage and as transportation is a matter of great difficulty in that remote region, the well was capped after flowing for half an hour. At Windy Point on Great Slave lake a 'dry hole' was struck.

At Pouce Coupé, in the Peace River district, favourable indications have caused considerable development work to be done. The Pouce Coupé field comprises the major portion of the Pouce Coupé river drainage basin. Topographically, the region represents a dissected plateau, rising gradually to the west, with elevations of from 2,500 to 3,000 feet above sea level. It is in the vicinity of the town of Rolla, which is reached by auto from Grande Prairie town in from five to seven hours. A winter trail is also available from Spirit River.

The plateau is underlain by sandstones and shales of upper cretaceous age. The main streams flow in deep, narrow valleys emptying into the Peace. Dr. J. A. Allan, Professor of Geology in the University of Alberta, with the assistance of Professor A. E. Cameron, has prepared a detailed geological report on the area under discussion for the Grande Prairie Board of Trade.

Attention was first directed to the field through the discovery of numerous seepages of high-grade crude oil along both the Pouce Coupé and Kiskatinaw rivers, which resulted in the acquisition under lease of some three hundred thousand acres, some seventy thousand acres of which were acquired by Imperial Oil, Ltd., who immediately undertook development. Their well, commenced with a 21-in. bore in June, 1921, developed a considerable flow of gas around 1,700 feet. Owing to climatic conditions drilling was suspended at the end of the season. Geological work in the district has not as yet been carried to a conclusion satisfactory to the company.

Oil rights in this field are granted under the liberal provisions of the old regulations, the later and more stringent regulations recently introduced applying only to the Northwest Territories. A large amount of British, American and Eastern Canadian capital has become interested in the Pouce Coupé field and development on a large scale is in prospect for the year 1922.

The field is easily accessible, machinery being shipped *via* the E. D. & B. C. railway to Grande Prairie and thence by auto trucks and tractors to the scene of operations, a distance of from 70 to 100 miles by road. An extension of the railway from Grande Prairie west, being undertaken in 1922, will further simplify transportation problems.

### Fur

Since the feet of the white man first trod this district, it has been a continual source of wealth in fur and game. Over one hundred years ago the Northwest Company and the Hudson's Bay Company were rivals for the trade,



and their old posts still remain in active operation. These rival companies long since united and continued as the Hudson's Bay Company. The Revillon Company then invaded the territory, and have posts scattered throughout the district; while, more recently, other fur-buying concerns have been attracted to the field and their posts have sprung up in various places. The buffalo of early days provided both meat and robes, and there still roams the northern parts of this district a small band of wood buffalo, survivors of the majestic herds of yore. Moose, deer, and bear are now the larger animals hunted, while smaller fur-bearing animals produce more profit from their skins than did the buffalo in their time.

The Beaver, Slavey and Chipewyan Indian tribes live almost entirely from the chase, eating the meat and trading the fur, while the Crees and half-breeds usually prefer to make their living by trapping rather than by farming or other pursuits. In fact, so profitable has trapping become in late years, that many of these people have given up promising farms to return to their old haunts, which barely yielded a living a few years ago. These abandoned farms may be seen in the Fort Vermilion district; the farms are good, but the fur business is better, according to the Indian opinion. Many white men also engage solely in trapping. Besides these regular trappers, great numbers of settlers find in their spare time during the winter that they can derive considerable revenue from this source, and the homesteader's boy attains ready pocket money and endless adventure from his own enterprise in this line.

#### Fish and Game

While the district abounds in fur-bearing animals, it is not so lavishly provided with fish. The mountain streams, however, contain trout. Moberly lake, though small, is well stocked with whitefish, as is also Sturgeon lake. Peace river produces a few fish, chiefly ling and gold eyes. The Caribou lakes, north of Fort Vermilion, teem with large trout and whitefish, and will yield enormous quantities. As yet, these lakes are difficult of access. The Wabiskaw and Peerless lakes are also well stocked, but lie in a district remote from settlement.

In feathered game, wild ducks, geese, swans, and waxies are plentiful. These are especially abundant on the Hay lakes northwest of Fort Vermilion, and on the lower Peace and Athabaska. In the autumn, they gather in flocks of thousands, and the Indians kill great numbers and hang them up to freeze for winter use. Prairie chickens and grouse are found throughout the district, but are not numerous. They are protected by the Provincial Governments. Ptarmigan are plentiful in the mountainous regions of the Upper Peace river and its tributaries.

Moose and woodland caribou are fairly plentiful, but other deer are rarely seen. Wolves, bears, coyotes, and foxes afford exciting chase for the sportsman and an opportunity, at the same time, to rid the settlers' farmyards of invaders.



Most interesting of all big game in the Peace River district is a herd of buffalo found ranging on that strip of prairie and park land lying between the Peace and Slave rivers and the Caribou mountain lands. These majestic animals constitute what is believed to be the last herd of their species roaming wild. Their number is estimated to be in the neighbourhood of a thousand. They are protected by a rigid close season and hopes are entertained for their perpetuation and increase.

#### Water-powers\*

Many misleading statements have been published relating to the vast amount of power available on the Peace river. This river, from the canyon in British Columbia to Vermilion chutes in Alberta, a distance of approximately 500 miles, is a wide swift, generally shallow, river flowing over a sand or gravel bed and through a deep valley, with gently sloping sides. The river is a mountain stream, as are many of its tributaries, and as a result the flow is very irregular, varying as much as 50 to 1 between high and low water, with the floods occurring during the summer months and the low during the winter.

On the Peace river there are two possible power sites: one in the headwaters at the canyon, and the other at Vermilion chutes.

The canyon site has not yet been investigated by the Department's power engineers, and while the total fall through the canyon, which is about 18 miles in length, is reported to be between 225 and 275 feet, it is not known how much of the total head can be developed. In any event, a power development at this site will be an expensive undertaking, and can only be accomplished when a market for the power is available close at hand.

The Vermilion chutes site has been surveyed and investigated by the Department's power engineers. The river at this site averages one mile in width, and takes a drop of 30 feet in two miles. The fall is concentrated chiefly at two points; the first or upper fall being in the form of a rapid, half a mile in length, with a total drop of 11 feet. The second drop is situated one and a half miles below the rapid, and is an abrupt one of 13 feet over a limestone ledge. It is commonly called the "chutes."

At the "chutes" both river banks are low, and an effective head of 30 feet is about all that can be obtained. The continuous 24-hour power available based on one season's discharge records, amounts to 19,100 horse power. For nine months of the year possibly 27,300 horse power can be developed.

The possibility of developing small blocks of power on the tributaries of the Peace has not been definitely investigated by the Department's engineers. Of these tributaries, the Pine, North Pine, and Smoky rivers have their sources in the mountains and foothills and are fed by the melting snows in the mountains during the summer months and have only a small run-off during the winter. The Moberly, Pouce Coupé, and Bear Creek, together with the tributaries below Peace River (Crossing), depend upon the precipitation, are subject to floods during the spring and summer months, and have a very small flow

\*Data for the section on water-power were prepared by C. H. Attwood, of the Dominion Water Power Branch, Chief Engineer in charge of the Alberta and Saskatchewan power surveys



during the winter. Further investigations may, however, reveal the possibility of storing and conserving the flood waters on many of these streams. In such an event, these streams will be capable of producing sufficient power to operate small mills, and in some cases supply the power demands of a small municipality.

The inherent disadvantages of the Peace river and its tributaries as a source of power at the present time are irregularity of flow, high cost of development, and absence of market. These disadvantages may, however, be overcome by the creation of storage reservoirs to regulate the flow, and by settlement of the district. As the district becomes thickly populated and towns spring up, transportation facilities will be greatly improved and a market created for the power.

### Transportation

The Peace River district is now connected by rail with Edmonton, the capital of Alberta, and may be reached in comfort and despatch by modern means of travel. Peace River, Spirit River, and Grande Prairie are served by the railway. In addition, those districts adjacent to the river have the benefit of a steamboat service during the months of navigation.

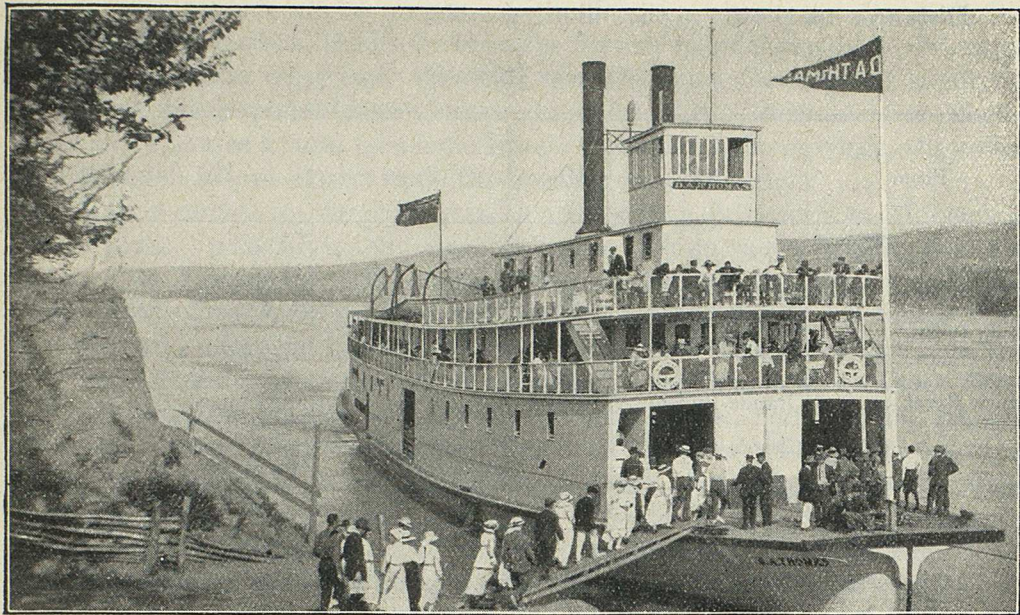
The Edmonton, Dunvegan and British Columbia railway runs northerly from Edmonton to Smith, the first divisional point, where the Athabaska river is crossed. Swinging westerly, it follows the Lesser Slave river and skirts the southern shore of Lesser Slave lake, famous for its yields of whitefish. High Prairie is on the line of steel at the westerly end of this lake, and marks the approximate divide between the Athabaska and Peace watersheds. The railway then runs more northerly to the next divisional point, McLennan. From McLennan, the Central Canada railway runs northerly to Peace River, reaching the edge of the valley at a point overlooking the junction of the Peace and Smoky rivers and affording the traveller an excellent bird's-eye view of the town nestling in the valley several hundred feet below. A long descent on a side-hill grade brings one into the valley and to the edge of the waters of the Peace itself.

During 1921, the line was extended westerly from Peace River to Berwyn, a distance of twenty-three and a half miles. Freight and passenger service has now been inaugurated on this extension and further construction is contemplated for the present year.

From McLennan, the main line of the Edmonton, Dunvegan and British Columbia extends westerly, crossing the Smoky river and continuing to Spirit River settlement. Location has been carried still further west as far as Pouce Coupé, and it is only a matter of time until the steel will be laid across this prairie and thence through the mountain passes to give an outlet to the Pacific coast.

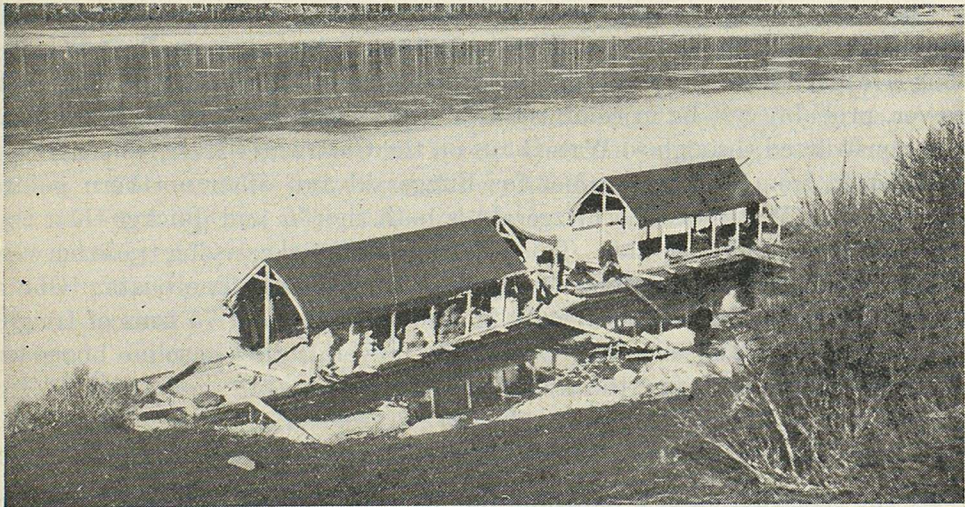
From Spirit River, a branch runs southerly to Grande Prairie, a new town which has sprung up in the heart of the great prairie whose name it bears, and which has been settled so rapidly in recent years. It is expected the line will be extended westerly from Grande Prairie in the near future.





*Photo by V. Lloyd-Owen*

STEAMER *D. A. Thomas* AT PEACE RIVER



*Photo by F. H. Kitto, D.L.S*

LOADING SCOWS AT PEACE RIVER



Distances are shown on the following table:

## RAILWAY DISTANCES

From	To	Miles	From	To	Miles
<i>E. D. &amp; B. C. Ry.</i>					
Edmonton.....	Smith.....	130.8	Reno.....	Peace River.....	24.7
Smith.....	High Prairie.....	103.5	Peace River.....	Berwyn.....	23.5
High Prairie.....	McLennan.....	27.9	<i>Total Distances</i>		
McLennan.....	Smoky.....	32.0			
Smoky.....	Spirit River.....	63.0			
Spirit River.....	Grande Prairie...	49.8			
<i>Central Canada Ry.</i>					
McLennan.....	Reno.....	23.8	Edmonton.....	McLennan.....	262.2
			Edmonton.....	Peace River.....	310.7
			Edmonton.....	Spirit River.....	357.2
			Edmonton.....	Grande Prairie...	407.0
			Edmonton.....	Berwyn.....	334.2

At present, a train service is maintained on all these lines from Edmonton and return, twice a week. Sleeping and dining car services are operated from Edmonton to Grande Prairie, Spirit River and Peace River. In Edmonton all passenger traffic is handled to and from the Canadian Pacific depot at the corner of Jasper avenue and 109th street, which is conveniently located in the heart of the city.

Stockyards are located at Smith and McLennan, the yards at the latter point being capable of handling 30 cars of stock at any time. All stations are supplied with loading and unloading facilities for stock, grain and settlers' effects.

The boats plying on the Peace river have, in the past, provided practically a weekly service. The largest of these is the stern-wheel steamer *D. A. Thomas* having a capacity of 250 passengers and 300 tons of freight. This boat will, however, probably not be in commission in 1922 since the A. & G. W. railway is now constructed through to Waterways on the Clearwater river, where freight is transferred from cars to steamer for Fitzgerald and other northern points. The route from Waterways to Fitzgerald is both shorter and quicker than that from Peace River to Fitzgerald. This will leave the local carrying trade between Hudson Hope and Fort Vermilion in the hands of the gasoline boats. One of these, the *Weenusk*, having a capacity of 10 passengers and 75 tons of freight, is operated by the Hudson's Bay Company. Several other gasoline boats will also ply on this route during the season of 1922.

## Communications

By the construction of a telegraph line from Edmonton to Peace River, the Dominion Government has overcome that dread of isolation which kept many a prospective settler from entering this district at an earlier date. The farmer of to-day is a business man, and demands means of speedy communication regarding his business affairs. Especially do women, willing to brave other priva-



tions of a pioneer life, shrink from being cut off from ready means of communication with their distant friends, or from the current news of the day. Provision has been made to meet these demands, the Dominion Government supplying an efficient telegraph and mail service. In addition, the Government of Alberta owns and operates a rural telephone system throughout the province, the extension of which follows closely upon the opening of new districts.

Mail is carried by the railway twice a week from Edmonton to McLennan, Peace River, Spirit River, and Grande Prairie. From railway points it is distributed by carrier to various post offices throughout the district. Already about sixty offices have been opened, and the mail service is constantly being extended and improved to keep pace with the growth of the country.

The Dominion Government telegraph line from Edmonton to Peace River has been extended westerly to Dunvegan, Grande Prairie, Fort St. John, Hudson Hope, and intermediate points, comprising in all 710 miles of line. The following are the stations on it: Edmonton, Halfway Lake, Athabaska, Mirror Landing, Sawridge, Swan River, Faust, Indiana, Grouard, Peace River, Waterhole, Dunvegan, Spirit River, Grande Prairie, Lake Saskatoon, Beaverlodge, Pouce Coupé, B.C., Fort St. John, B.C., Halfway River, B.C., and Hudson Hope. B.C.

#### Education and Social Life

The public school system of Alberta applies to all settled portions of the province, and provides free and competent instruction to all children. The provincial Department of Education is very much alive to the child's intellectual and educational welfare. As soon as eight children can be assembled in any district, a suitable building is provided and a competent teacher engaged to carry on the work of instruction, as outlined by the department, under proper inspection and supervision. In the towns and larger villages, high-school studies are included in the curriculum. At Peace River, and Grande Prairie the work is carried up as far as matriculation, so that the boy or girl may be prepared to enter upon his or her college course without finding it necessary to leave home for intermediate studies. Over one hundred schools are now open throughout the district. The average daily attendance for the year 1919 at Grande Prairie was 115.76, while the attendance of purely rural schools is somewhat higher than in many older-settled districts.

Religious denominations are well represented. The Church of England and the Roman Catholic church have been very active during the past quarter century in mission work, and have established mission schools among the Indians at Fort Vermilion, Shaftesbury, Dunvegan, Lake Saskatoon, and Flying Shot lake. Methodist and Presbyterian churches have been established at principal points, in many instances concrete examples of union being manifest. Other denominations and societies are found throughout the district.

Fraternal and benefit societies are opening lodges in principal towns. Peace River, Spirit River, and Grande Prairie have live boards of trade eager to promote the welfare of the town and to welcome the newcomer. Agricultural societies have been formed at various local districts and annual fairs are held.



Two weekly newspapers are published at Peace River, one at Grande Prairie, one at Spirit River, one at Clairmont, and one at Lake Saskatoon. The ever-popular motion-picture theatre has made its appearance in the principal towns. Boards of trade, farmers' associations, women's institutes, fraternal societies, athletic clubs, and other institutions tend to keep alive the spirit of an optimistic people. Hospitals are established in Peace River and Grande Prairie.

Except in remote corners the settler need not feel at all isolated. It has always been noticeable that in pioneer sections social barriers are cast down, and a spirit of equality and brotherhood is more evident than in older-settled parts. Peace River is no exception to this rule, and the new-comer finds welcome and ready assistance from those with whom he comes in contact, and rapidly makes new and staunch friends,

#### The British Columbia Section

That part of the Peace River district falling within the province of British Columbia, and exclusive of the Peace River block, comprises the portion controlled by the Government of that province so far as ungranted public land is concerned. It is practically embraced in the Peace River Land Recording District, the recording office of which is located at Fort George. This might be called the mountain section of Peace river, and is divided from the plains section by the Rocky Mountain canyon, which at Hudson Hope forms an interruption to navigation. It includes the valley of the Peace, from this point to its head; also the great valleys of the Finlay and Parsnip rivers, together with the valleys of their many tributaries. Much of this section is still unexplored, but many millions of acres of fertile land are known to lie in its valleys, and untold mineral wealth rests beneath its hills.

Small settlements are found about the various trading posts and mining camps of which the principal are Finlay, at the junction of the Finlay and Parsnip rivers; Fort Grahame, on Finlay river; Fort McLeod, on McLeod lake; and some camps on the Omenica. As yet the district is difficult of access and remote from civilization and markets. The nature of the country is generally rugged and the climate severe. The Omenica miners travelled over a pack route from Hazelton. An easier canoe route is now available from Fort George, but much the easier way is from Hudson Hope, which point can be reached by rail and river steamboat from Edmonton in three days. The Rocky Mountain canyon is passed by a 14-mile wagon road leading from Hudson Hope to the site of old Rocky Mountain House, which once stood at the head of the canyon.

While this section is still practically in its primitive state, it holds out very alluring promises for the future. Railway surveys have been projected from the south and the east, and once the steel penetrates the district it will open up very rapidly. Mixed farming, dairying, and ranching will thrive as soon as markets are made accessible. Mining will revive when means of transporting heavy machinery is provided. Various rivers offer good inducement for dredging, and quartz ledges have been discovered which could be milled profit-



ably, if machinery could be more easily taken in. The district is known to be highly mineralized, and the field is an excellent one for the prospector. The coal fields above Hudson Hope are believed to be very extensive, and the quality is high grade.

Timber is also plentiful, and much water-power is available. Fish and game are abundant. The scenery is magnificent, and the summer seasons very delightful. The district is rich in fur, and many prospectors scattered throughout its remote corners are combining trapping with their quest for minerals. Their traps yield them a livelihood until they have located paying claims.

With the coming of the steel, and the opening of coal and other mines, this district will develop very rapidly. To those not afraid to face a few years of pioneer work will come the opportunities which await the man on the ground, when the great movement sets in.

The following tables show distances of present routes:

## EDMONTON TO HUDSON HOPE

From	To	Miles (Approx.)	Means of Travel
Edmonton.....	Peace River....	311	Rail
Peace River.....	Hudson Hope..	229	Steamboat
Edmonton.....	Hudson Hope..	540	Rail and boat
Edmonton.....	Fort George.....	486	G.T.P.
Prince Rupert.....	Fort George.....	469	G.T.P.

## PRINCE GEORGE TO HUDSON HOPE, CANOE ROUTE

Route	Miles (Approx.)
Prince George to Summit lake (overland).....	32
Summit Lake.....	4
Summit lake to Fort McLeod via Crooked river and McLeod lake.....	65
Fort McLeod to Finlay via Pack and Parsnip rivers.....	115
Finlay to Rocky Mountain Portage via Peace river.....	72
Rocky Mountain Portage to Hudson Hope.....	14
Total.....	302



### The Great Agricultural Sections

The Crown lands and natural resources of the Peace River district included within the boundaries of the province of Alberta and the Peace River block of British Columbia are the property of the Government of Canada. They are controlled by the various branches of the Department of the Interior at Ottawa. To expedite transaction of official business, this vast district has been divided into land districts, each provided with local offices. Government agents are stationed at these offices to give immediate attention to the disposal of Dominion lands, the control of Crown timber, and the recording of mineral claims.

The Peace River Land district extends from the fifth principal meridian westerly to the British Columbia boundary. Its southern boundary follows the line between townships 84 and 85 across ranges 1 to 3, between townships 68 and 69 across ranges 4 to 20, and between townships 73 and 74 across ranges 21 to 26 west of the fifth meridian. West of the sixth meridian its southern boundary is the Peace river. Its northern boundary extends to the northerly limit of the province of Alberta. This district also includes that part of the Peace River block lying north of the river. The agency is located in the town of Peace River with sub-agencies at Fort St. John and North Vermilion.

Grande Prairie Land district includes townships 61 to 73, inclusive, from range 21 west of the fifth meridian to the sixth meridian. From the sixth meridian it extends westerly to the British Columbia boundary, and northerly from township 61 to the Peace river. It also includes that part lying south of Peace river of the Peace River block. The agency is located in the town of Grande Prairie, with sub-agencies at Spirit River and Pouce Coupé.

The tide of settlement to these districts has set in practically within the last ten years. Prior to that, only a few scattered pioneers could be found about the various trading posts. The attractions of the district, however, and the unbounded faith of its pioneers gradually drew the attention of the outside world, and home seekers began to make their way in over the long, trying trail from Edmonton. Undaunted by such hardships, they blazed the way for others to follow and pressed forward to secure the choicest locations. Surveyors were rushed into the district to lay out the lands, and before the outbreak of the Great War, various localities of particular attraction had become thriving centres of settlement.

Even during the period of war, the rush of settlement continued. Immigration from Europe having been suspended, the district received its new-comers almost entirely from older-settled parts of Canada and various States of the adjoining Republic. Many returned soldiers are now finding their way into the district to locate new homes for themselves. The opening of a railway and extension of navigation have made the way easier during the last two or three years.



The principal centres of settlement, and the land districts and provinces in which they lie, are shown on the following table:

PRINCIPAL CENTRES OF SETTLEMENT

Settlement	Land District	Province
High Prairie.....	Peace River.....	Alberta
McLennan.....	".....	"
Peace River.....	".....	"
Dunvegan.....	".....	"
Spirit River.....	Grande Prairie.....	"
Grande Prairie.....	".....	"
Pouce Coupé.....	".....	British Columbia
Fort St. John.....	Peace River.....	"
Hudson Hope.....	Peace River and Grande Prairie..	"
Fort Vermilion.....	Peace River.....	Alberta

Some idea of the extent of settlement and development may be obtained from the following table of miscellaneous figures taken from official returns:

MISCELLANEOUS STATISTICS

Particulars	Land Districts		Total
	Peace River	Grande Prairie	
No. quarter sections of Dominion Lands surveyed (approx.).....	33,800	23,800	57,600
No. quarter-sections of Dominion lands disposed of (approx.).....	4,586	6,589	11,175
No. homesteads and soldier grants recorded in year 1920.....	740	779	1,519
No. homesteads and soldier grants recorded in year 1921.....	617	438	1,055
No. grazing leases in good standing.....	81	65	146
Area in acres.....	78,080	111,360	189,440
No. timber berths in good standing.....	19	20	39
Area in acres.....	134,240	186,886	221,126
No. petroleum and natural gas leases in good standing.	1,432	981	2,413
Area in acres.....	298,819	303,314	602,133
No. coal mining leases in good standing.....	4	18	22
Area in acres.....	240	2,449	2,689

### Farming and Ranching

The Peace River district has won considerable fame through its production of high quality samples of wheat. On the Experimental Farm at Fort Vermilion several varieties have yielded at the rate of over 60 bushels to the acre and as high as 69 in the case of Marquis wheat. The kernels are exceptionally plump and hard and have won prizes in world competitions. Yet taking the district as a whole, year after year, it cannot by any means be considered a wheat-growing



country exclusively, or classed with the great wheat sections of southern Manitoba and Saskatchewan.

On the other hand, it is not a wide open ranch country in the same sense that southern Alberta formerly was. True there are large tracts of splendid ranching lands and the growth of wild hay and peavine is most prolific throughout the whole district: but the fact that the soil is so uniformly fertile and the district so well adapted to more intensive agricultural operations, decrees that single extensive areas of land will not long be allowed to remain unbroken. The winter seasons are more severe than in southern Alberta. These two factors, limitation of range and length of winters, tend to create an unusual ranching situation in which there will be found fewer larger holdings but more small ones. The average number of cattle which will eventually be produced to the square mile in this district is likely to be in excess of that of a like area in any exclusive ranching district.

The district is best suited to mixed farming, dairy farming and small-scale ranching. Wheat, oats, barley, rye, flax and domestic grasses of several varieties all do well in average years. Vegetables and small fruits can be raised most successfully. Their rate of growth is very rapid and the mature products are equal to corresponding varieties found in any other part of the province. Horses, cattle, sheep, hogs and poultry thrive equally as well as in older settled parts of Western Canada. A well balanced "mixed farm" of a half-section (320 acres) of Peace River land will enable a settler to found an enviable home and obtain an independent livelihood.

Ranchers and mixed farmers contemplating taking stock into any part of the Peace River district would do well to bear in mind that experience has shown it both necessary and profitable to feed at times when climatic conditions make grazing unsatisfactory. To those who cannot afford to take chances on severe winters, whose range is limited and whose cattle and horses are imported and not acclimatized, it is of primary importance that provision for winter feeding, at least part of the time, should be made. Moreover, from a purely commercial standpoint it is good business to be prepared to keep up the condition of the stock at any time—either during the winter or summer season—by a liberal feeding of hay, when such can be secured as plentifully as in the Peace River district.

By actual experience, it has been found that the average amount of hay required for winter feeding throughout this district is three tons per head of stock. Slough grass makes good hay for cattle and the numerous natural meadows of the district provide great quantities yielding as high as four tons to the acre. Peavine is more relished by both horses and cattle and is widely distributed throughout the district. Upland hay does not usually yield as well as slough grass and the bottom may require cleaning up before a mowing machine can be operated, but it makes better hay and, in wet years when the meadows are flooded, is especially in demand,

If carefully stacked, hay will keep for several years in this district and what is not required one winter is carried over to the next with practically no loss. Permits for cutting the required amounts on vacant Dominion lands may be



obtained from the local agent and assistance in hay-making is not difficult to obtain. The homesteaders, small farmers and Indians of the locality are usually only too glad of the opportunity to assist a larger rancher in this work. The hay-making season may be extended throughout the months of August and September.

Where natural hay meadows are not to be found, or when, in the rotation of crops, it is found desirable to plough the land up, domestic grasses may be grown to replace the wild hay. Such varieties as alfalfa, timothy, brome grass and rye grass have been grown most successfully in many localities and have been found to yield well. Oats sown on spring breaking and cut green, if properly cured, make very nourishing fodder. Late crops of any kind or crops injured by frost can be cut for this purpose and put to some use whereas, otherwise, they would represent a total loss. With the closer settlement of the district and consequent disappearance of wild hay lands, the cultivation of this class of fodder will become more imperative.

According to an estimate made by the Edmonton, Dunvegan and British Columbia railway of the approximate grain acreage in the territory served by the E. D. and B.C., the Central Canada and the Alberta and Great Waterways railways for the year 1921, there were 84,120 acres sown to wheat, 136,120 to oats, 36,660 to barley and 2,475 to other grains.

The average yield per acre for wheat is conservatively estimated at 20 bushels; for oats, 30 bushels and for barley, 25 bushels, giving a total yield for these three leading grains of 6,682,500 bushels.

Assuming that the farmers held for seeding purposes  $1\frac{1}{2}$  bushels of wheat per acre, 3 bushels of oats, and 2 bushels of barley, it is estimated that at least 1,500,000 bushels of wheat, 750,000 bushels of barley, and 1,500,000 bushels of oats were available for shipment.

## GRAIN ELEVATORS ON E. D. AND B. C. RAILWAY

Station	Owner	Capacity
		bushels
Alcomdale.....	Gillespie Grain Co.....	E-35,000
Westlock.....	Home Grain Co.....	E-33,000
".....	United Grain Growers Ltd.....	E-35,000
High Prairie.....	Gillespie Grain Co.....	E-30,000
Donnelly.....	" ".....	E-30,000
Rycroft.....	" ".....	E-15,000
Spirit River.....	" ".....	E-30,000
".....	Alberta Pacific Grain Co.....	E-35,000
Sexsmith.....	Gillespie Grain Co.....	E-30,000
".....	Alberta Pacific Grain Co.....	E-35,000
Clairmont.....	" ".....	E-35,000
".....	Gillespie Grain Co.....	E-30,000
".....	United Grain Growers, Ltd.....	E-35,000
Grande Prairie.....	Gillespie Grain Co.....	E-30,000
".....	Alberta Pacific Grain Co.....	E-20,000
".....	United Grain Growers, Ltd.....	E-35,000
<i>Central Canada Railway</i>		
Peace River.....	Gillespie Grain Co.....	E-30,000
Berwyn.....	" ".....	E-30,000
".....	Alberta Pacific Grain Co.....	E-18,000
<i>Total.....</i>		<i>571,000</i>



The Dominion Department of Agriculture has established experimental stations at Beaverlodge, Fort Vermilion and Grouard, where much useful experimental work is being conducted.

The following table gives an idea of the climatological conditions to be met with in the Grande Prairie district.

METEOROLOGICAL OBSERVATIONS AT BEAVERLODGE, GRANDE PRAIRIE, ALBERTA,  
FROM APRIL 1, 1920, TO MARCH 31, 1921

Months	Maximum	Minimum	Range	Mean	Highest	Date	Lowest	Date	Rainfall	Snowfall	Total Precipitation	Number of days Precipitation	Heaviest in 24 hours	Date
April.....	36.50	18.53	17.96	27.51	50.0	18th	-12.0	3rd	1.42	4.00	1.82	7	0.70	20th
May.....	52.66	32.64	10.01	42.64	69.0	7th	20.0	1st	1.15	.....	1.15	6	0.75	28th
June.....	62.37	40.70	21.68	51.54	76.0	28th&29th	31.0	11th	3.17	.....	3.17	13	0.67	6th
July.....	75.37	50.43	24.93	62.89	89.0	16th	40.0	3rd	2.52	.....	2.52	7	1.07	22nd
August.....	69.74	45.88	23.85	57.80	86.0	15th	32.5	29th	2.48	.....	2.48	10	1.37	17th
September.....	56.15	35.30	20.85	45.72	72.0	3rd	28.0	15th	1.80	.....	1.80	16	0.38	25th
October.....	44.80	27.70	17.09	36.24	58.0	1st	13.0	19th	1.55	1.00	1.65	7	0.58	7th
November.....	31.93	15.29	16.64	23.61	52.0	2nd	0.4	24th	.....	4.30	0.43	4	0.18	22nd
December.....	17.41	3.79	13.62	10.60	37.0	4th	-20.0	26th	.....	7.50	0.75	3	0.50	27th
January.....	13.19	-1.32	14.51	5.93	40.0	1st	-26.0	17th	.....	14.00	1.40	9	0.30	5th
February.....	28.32	9.85	18.46	19.08	48.0	24th&25th	-22.0	20th	0.17	8.00	0.97	5	0.30	2nd
March.....	28.93	9.09	19.83	19.00	48.0	8th	-22.0	12th	.....	12.00	1.20	7	0.40	18th
Total.....	.....	.....	.....	.....	.....	.....	.....	.....	14.26	50.80	19.34	94	.....	.....

The Superintendent at Beaverlodge, Mr. W. D. Albright, states that the wettest month of the year ending March 31, 1921, was September, rain falling on no less than sixteen days. Snow fell on the 7th October, and the lowest temperature for that month, 13° F., was recorded on that date. The potato harvest was finished by October 15 and grain stacking was completed by the 22nd. The winter was very mild, the lowest temperature being 26° below zero on January 17th.

Crop yields at the Station were excellent. The best plot of barley (O.A.C. 21) yielded 70 bushels to the acre, while the heavier seedings of Ligowo oats yielded no less than 103 bushels to the acre. Huron wheat, which was badly frosted, produced 38 bushels per acre.

Continuing, Mr. Albright says, each succeeding year "emphasizes the wisdom of having featured forage crops in the early experimental work at Beaverlodge. Most crucial of all is the problem of seeding down to hay and pasture crops. Preconceived opinions on this, as on nearly every other phase of northern agriculture, are discounted by the peculiarity of climatic conditions. Among these may be enumerated:

(a) A limited and irregular precipitation, averaging perhaps 15 to 18 inches per annum, but running as low as 10 inches, with a tendency very often to drouthy conditions in spring and early summer, the period when hay crops need plenty of moisture.

(b) Conditions that ordinarily result in quite a rank growth of cereals, which thus become "smothering" rather than "nurse" crops to grasses and clovers seeded amongst them.



(c) A comparatively short and tardy growing season, with a late grain harvest, followed often by a dry autumn, affording little opportunity for new seedings of grasses and clovers to make sufficient top and root growth after the grain has been cut.

(d) Conditions that render it difficult to germinate and destroy weed seeds, some of which lie over, even in well-fallowed soil, to spring up vigorously when slow-starting crops like grasses are sown. This complicates the problem of seeding down without nurse crops.

(e) Lack of natural inoculation of the clovers commonly employed in rotation cropping.

(f) A comparatively brief and tardy season during which soil temperature is high enough for nitrification, resulting in a very limited nitrogen supply to all crops, save those such as cereals for which a fresh supply of nitrates and other plant food is liberated by annual cultivation. May not this, especially in view of the unusually limited moisture supply, have much to do with the well-known tendency of perennial hay crops to yield sparingly under western conditions."

The land is well adapted to the growing of vegetables. Carrots, beets, onions, celery, cabbage, garden peas, beans, tomatoes, lettuce, radish, turnips, pumpkins and squash give large crops of properly matured vegetables, according to "The Peace River Guide."

The following tables indicate the results of experimental work over a period of years with wheat and oats at Beaverlodge.

SPRING WHEATS

Variety	Date of cutting	Time to mature fully	Yield per acre, 1920		Yield per acre 6-year average 1915-20		Yield per acre 3-year average 1918-20		Yield per acre 2-year average 1919-20	
			bush.	lbs.	bush.	lbs.	bush.	lbs.	bush.	lbs.
		days								
Kitchener.....	Sept. 10...	115	54	13						
Red Bobs.....	" 7...	112	54	00					49	30
Huron.....	" 10...	115	50	10	43	51	45	29	48	13
Early Red Fife.....	" 10...	115	48	29						
Marquis.....	" 7...	114	46	21	34	55	40	25	46	18
	and 10									
Ruby.....	Aug. 21...	98	39	49			32	26	36	54
Marquis Special.....	Sept. 7...	114	55	48						

OATS

Variety	Date of cutting	Estimated time to mature fully	Yield per acre 1920		Yield per acre 5-year average 1916-20		Yield per acre 4-year average 1917-20		Yield per acre 3-year average 1918-20		Yield per acre 2-year average 1919-20	
			bush.	lbs.	bush.	lbs.	bush.	lbs.	bush.	lbs.	bush.	lbs.
		days										
Victory.....	Sept. 7.....	116	134	08	106	32	108	33	118	11	126	33
	" 7 and 10											
Banner.....	" 7.....	113	128	12							130	22
Leader.....	" 7.....	116	122	31								
Gold Rain.....	" 4.....	112	122	16								
Ligowo.....	" 4.....	111	116	06	102	30	106	16	117	16	115	00
Abundance.....	" 4.....	111	111	10			100	18	111	16	111	13
Tartar King.....	" 4.....	112	109	02								
Liberty.....	Aug. 28.....	109½	73	12					74	32	72	24
	Sept. 4.....											
O. A. C. No. 3.....	Aug. 20.....	94½	85	26								
Daubeney.....	" 20.....	94½	78	28	79	13	83	09	88	12	82	02



The average yield per acre for potatoes at Beaverlodge in the three-year period, 1918-20 was: Early Northern, 356 bushels; Country Gentleman, 328 bushels; Gold Coin, 315 bushels; and Early Rose, 313 bushels.

Field peas have proved an uncertain crop at Beaverlodge, even on high ground. The Arthur variety yielded 1,665 lbs. per acre in 1915; in 1916, the crop was killed by frost in August; in 1917, frosting before maturity was responsible for a yield of only 580 lbs.; in 1918, the crop was killed by frost in July; in 1919, the yield was 1,463 lbs.; while in 1920 it was 1,877 lbs.

### High Prairie

A considerable area of excellent farming land, with prairies at frequent intervals, is found about the west end of Lesser Slave lake and on the divide between this lake and the Peace River slope. Various settlements have grown up in this district, of which the earlier were Lesser Slave Lake, Salt Prairie, Heart River, and Big Prairie settlements. These were surveyed in settlement lots prior to the extension of the regular system of township surveys. The old wagon road from Edmonton to Peace River Crossing by way of Athabaska Landing followed the south and west shores of Lesser Slave lake, and at the northwest extremity, at the head of navigation, a trading post was located. About this post has grown up the town of Grouard. From Grouard the trail led northerly to Peace River. Lesser Slave lake has for many years been famous for its yields of whitefish. These fish are caught in the winter, and shipped in a frozen condition. Before the advent of the railway, they were freighted by team to Edmonton. Fishing, freighting, and fur trading were occupations that brought large numbers of Indians and hardy white men into this district. Great areas of hay lands along the shore of the lake encouraged the settlers to raise cattle, and this was followed by the cultivation of choice sections of prairie and lightly wooded lands in the vicinity.

A land district embracing over 200 townships about the lake was formed, and an agency established at Grouard for the convenience of settlers. When the railway was built, it followed westerly about 20 miles beyond the lake before swinging north to Peace River, and then paralleled these older settlements along the wagon road. It crosses a few miles of beautiful prairie located on the height of land between the lake and Peace River, which is now called High Prairie. The old wagon road from Grouard to Sturgeon Lake crossed the same prairie.

This prairie has been located and settled very rapidly since the building of the railway. About the depot, established here, has grown up the town of High Prairie, where the Dominion Land Agency, originally located at Grouard, was later established. This prairie gave its name to the land district as well as to the town, the district formerly called Grouard being known later as High Prairie Land district. It has recently been absorbed in the Peace River Land district by the enlargement of boundaries of the latter.

The soil throughout this section is good, being mostly black loam with clay or sandy clay subsoil. Many patches of prairie occur, but these are not extensive, except the hay meadows and marshes found along Lesser Slave lake.



The greater part of the section is wooded. The woods range from light scattered poplar, with clumps of willow, to thick spruce, jackpine, birch and poplar, up to 8 or 10 inches in diameter. The surface generally is level or rolling, but numerous small rivers, with deep ravines, cut up many quarter sections and render them unfit for cultivation. There is usually good pasture, however, in these ravines.

All ordinary grains, grasses, and vegetables are grown in this section. It is well adapted to mixed farming and contains much good land open for settlement. This section is the first reached from the south, High Prairie being but 234 miles by rail from Edmonton.

#### McLennan

McLennan is the second divisional point on the Edmonton, Dunvegan and British Columbia railway being 262.2 miles northwest of Edmonton. It is the southern terminus of the Central Canada railway, which runs 48.5 miles northerly to the town of Peace River. Both of these railways are being operated under the same system, thus affording a through service to the north and west alike. From McLennan the main line of the Edmonton, Dunvegan and British Columbia railway runs westerly to Spirit River, crossing the Smoky river a few miles below the mouth of Little Smoky river. The old wagon road from Grouard to Peace River, over which the early settlers toiled from Edmonton, passes within 15 miles of McLennan to the east, so that this section was overlooked entirely during the first rush.

Settlers found their way into the Spirit River and Grand Prairie sections by way of Peace river and Dunvegan, a long, roundabout route, though the only good trail. Later these same settlers, finding it necessary to do considerable freighting to and from Lesser Slave lake, and even Edmonton, located a shorter route from Spirit River to Grouard. Their wagon road is now almost paralleled by the railway. The Smoky crossings are within three miles of each other, and the wagon road crosses the same township in which McLennan is located.

With the opening of the wagon road from Grouard, attention began to be directed to areas of splendid land lying between Winagami and Kimiwan lakes, and the Smoky river, and settlement here has been rapid since the laying of steel.

McLennan is located on the south shore of Kimiwan lake. About this lake are large hay meadows. Northerly, along the Central Canada railway, is found rich, level land with open patches, but generally wooded. A number of locations have been made at Camelia and at Reno, where the steel and the old Peace River wagon road converge to within a mile or two of each other, with the North Heart river between. Between McLennan and Smoky river, there is excellent land, gently undulating, with black loam on clay subsoil, and covered with light wood and numerous patches of prairie. A prosperous settlement of French-speaking farmers has grown up here. It centres about the village of Falher which lies two or three miles south of Donnelly station. The erection of



a large cathedral has been undertaken at this village and the settlement, which numbers upwards of 2,000 souls is making rapid progress. It extends westerly as far as Fowler, another station on the railway. Farther west and along the Smoky river are found fairly heavy spruce woods.

### Peace River

The town of Peace River, the hub of the great district whose name it bears, has grown in a few short years from a rude collection of divers small buildings, clustered about the old trading posts, to a flourishing agricultural and business centre. The original trading post was located a few miles upstream from the present town, and about it the Shaftesbury Settlement blazed the way in grain growing in the Peace valley. The newer posts and the town are beautifully located on sunny flats, nestling between high rolling banks immediately below the junction of the Smoky and Peace rivers, and at the mouth of the Heart. Here the wagon road from Edmonton, winding its way down the narrow gorge-like valley of the Heart, reached the Peace, and the weary traveller caught his first glimpse of that great river, the name of which had lured him on over the long trail.

A favourable spot for crossing the river was found at this location, and for many years a cable ferry has been in operation. The Old Hudson's Bay steamboat *Peace River* here exchanged great bales of raw furs for supplies of all kinds which the freighters brought from Edmonton. It plied up and down the river, supplying the lonely outlying posts with provisions for a new year and bringing out their fur catch of the past year. The trail, interrupted by the river, resumed its way westward, and after traversing the settlement of Shaftesbury, wound up the hill to the high plateau above, which it followed as far as Dunvegan.

"Peace River Landing" and "Peace River Crossing" were names variously applied in earlier days, but "Peace River" is now the official name of the town. The trail from Edmonton has served its purpose. The railway now reaches the town, and the hardy freighter has gone to new fields. The trail to Dunvegan is still a much-travelled highway, as it serves a very fertile and thickly settled section of land west of the town. It is in good condition, and automobiles are regularly seen upon it. Grading has been commenced for the extension of the railway which will follow this trail, as it has followed it from Edmonton, and the erection of a mighty bridge to span the river at Peace River town, has recently been accomplished.

The Dominion Lands Agency for Peace River Land district is located here, also the posts of the Royal Canadian Mounted Police and the Provincial Police. Railway, telegraph, telephone, and semi-weekly mail service keep the town in touch with the outside world. Two weekly newspapers are published. Schools, churches, a hospital, and an immigration hall are among the public buildings.

Various places of business supply the needs of the town and adjoining country. A board of trade and an agricultural society take active interest in the building up of the district. Coal has been found within 6 miles of the town, and gas and oil within its limits. The extent of these discoveries has not



yet been determined, but development work is being continued. It is hoped these resources will soon be made available in commercially profitable quantities.

Excellent farming land extends from the west side of the river right through to Dunvegan, the sixth meridian being located midway. The chief centres of settlement in this part are: West Peace River, Shaftesbury, Bear Lake, Paul's Corners, and Griffin Creek. North of West Peace River and Bear Lake there is good land open for settlement as far as Whitemud river. A wagon road extends farther north to Battle or Notikewin river. There is excellent prairie land here, surrounded by fairly heavy timber. Large numbers of cattle have recently been taken into these parts. During the season of navigation the Battle prairies can be easily reached by steamer. A wagon road leads from the steamboat landing near the mouth of the river into the heart of the prairie, a distance of 25 or 30 miles. Supplies are available at the trading post at the landing.

The land surrounding the town of Peace River, on the same side of the river, is rough and broken by the junction of the Smoky and the Heart rivers with the Peace. There is, however, much good grazing land in numerous valleys and ravines. On the plateau above the valleys the soil is good but mostly wooded and has some muskeg and marsh. While the choicest prairie locations have been pretty well taken up in this section, there are thousands of acres still available of land just as good, though requiring more work to bring under cultivation.

Since the completion of the railway from Edmonton to Peace River, the northern trade has increased very rapidly. Tourists are now able to go by rail and steamboat into the great Mackenzie and Arctic regions. Trappers, traders, and prospectors are continually coming and going, and during the season of navigation Peace River has become a busy shipping point. Railway surveys have been projected northerly to Fort Vermilion and Slave lake, and when the resources and beauties of the north become better known it is expected that this town will play an important part in its development.

#### Dunvegan

Over one hundred years ago, barley, potatoes, and several varieties of garden vegetables were grown by the employees of the Northwest Company on the river flats adjoining their post at Dunvegan. The results are said to have been very satisfactory. Grains, grasses, and vegetables are now grown extensively in all sections around this early starting point, and the district is fast developing into one of the most promising portions of the country.

Dunvegan itself is now merely a landmark of an old Hudson's Bay post. Its location is on the north shore of Peace river, 61 miles above the town of that name, and 18 miles by trail from Spirit River. The valley here is narrow and about 800 feet deep. A ferry has been installed, and is operated during the open season at the point where the wagon road crosses. The southern banks of the valley are thickly wooded. These woods, however, extend only a short distance beyond the top of the bank, when they give way to the Spirit River prairie. The northern banks are rugged and broken, and almost bare of trees. The plateau above comprises a very extensive area of excellent land.



When the Edmonton, Dunvegan and British Columbia railway was first mooted, Dunvegan was represented as occupying a most strategic position in connection with its construction. It was forthwith "townsited" and "boomed" with the unfortunate result that inevitably follows such hasty and groundless exploits. The choice farming lands of this section lie on the high plateau to the north and south of the river valley. Transportation lines and centres of business are being established on these plateaus leaving Dunvegan itself practically deserted in the deep narrow valley below.

North of Dunvegan there is excellent land as far as the Clear Hills, while easterly along the old trail from Peace River some of the best improved farms of the province are to be seen. The land has all been thrown open for settlement; very little is held in any form of reserve; consequently settlement has been uniform, and no "gaps" have been left. Good roads, telegraphs, telephones, schools, and churches are among the advantages of this district. The buildings and fences are in a remarkable state of advancement for a new district. In fact, this can no longer be called a "new district." It has passed its pioneer stage and settled down as a prosperous well-established community.

Between Dunvegan and the sixth meridian, the principal centres are Waterhole, Vanrena, Friedenstal and Bluesky. Finer farms cannot be found in any part of the West than in the vicinity of these villages. East of the sixth meridian, this fine settlement extends to the town of Peace River.

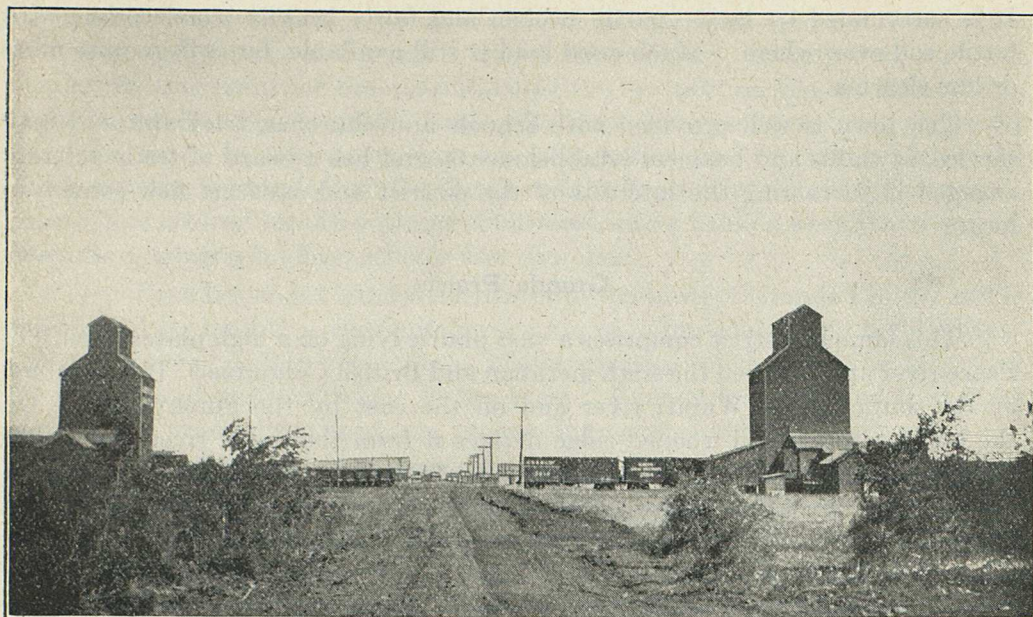
### Spirit River

The Spirit River prairie is not extensive, but comprises a few townships of excellent farm lands on a high plateau on the south bank of the Peace river, opposite Dunvegan. It was formerly reached from Edmonton by way of the Peace River Crossing and Dunvegan wagon road, being on the route that extended from Dunvegan to Lake Saskatoon. Trading posts have carried on business here for many years, the fur trade with the Indians having been extensive. About these posts, a settlement grew up, which was surveyed as such in 1907. Township surveys were extended in 1909, and settlement rapidly followed.

The soil is a rich, deep, black loam, and vegetation is very luxuriant. Wheat, barley, oats, and all common vegetables yield abundantly. The surface of the country is level or gently rolling, with an altitude of 2,400 feet above sea-level. It comes within the influence of the warm Chinook winds, and is well adapted to mixed farming and stock raising.

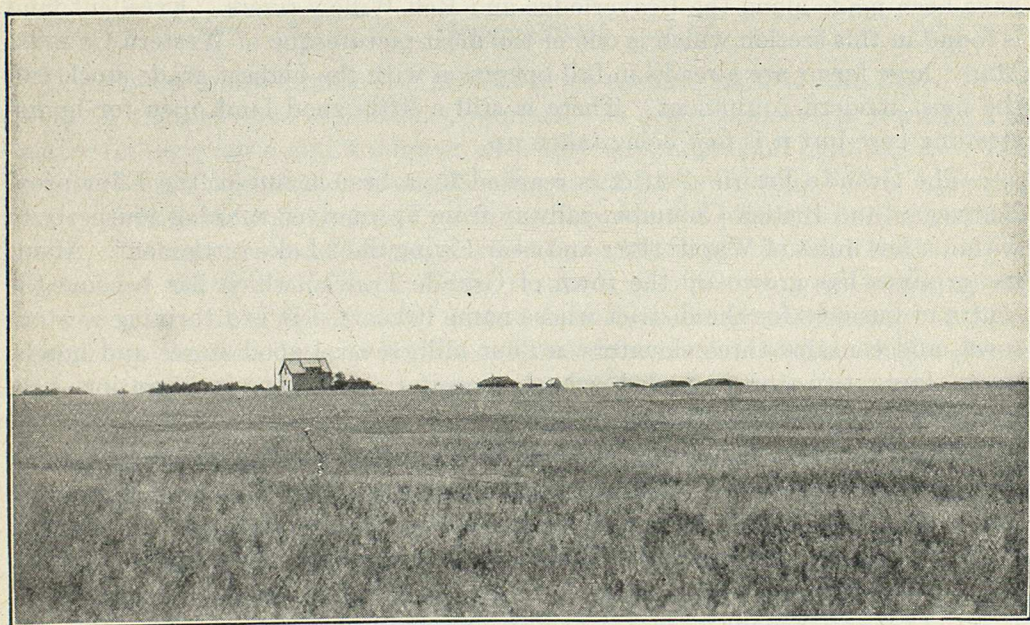
The town of Spirit River is the present terminus of the main line of the Edmonton, Dunvegan and British Columbia railway. Location and grading have been produced about 60 miles farther west, and a branch line runs south to Grande Prairie. Elevators and other shipping facilities provide ready outlet for farm produce. By the old wagon route it is 18 miles to Dunvegan and about 83 to Peace River town. This road is in good repair, and much used by automobiles. Auto liveries ply regularly between Peace River, Dunvegan, and Spirit River, and between Spirit River and Grande Prairie points. The section is well served by good roads and railways, and presents a very prosperous appearance.





*Photo by F. H. Kitto, D.L.S.*

ELEVATORS AT TOWN OF GRANDE PRAIRIE



*Photo by F. H. Kitto, D.L.S.*

OAT FIELD ON GRANDE PRAIRIE



It is surrounded by lands, partly broken and fairly heavily wooded, but with fertile soil everywhere. Much good land is still available, but will require more or less clearing.

The town is well provided with schools and churches, telegraph and mail service, sawmills and business establishments, and has a board of trade actively engaged in furthering the interests of the district and assisting new-comers to locate.

### Grande Prairie

This famous district comprises a vast prairie lying on a high plateau south of Peace river and between the sixth meridian and British Columbia. It is bounded on the south by the Wapiti river and on the east by the Smoky river. On the north a rough and wooded ridge divides it from the Spirit river and Pouce Coupé prairies. Westerly it extends to the foothills of the Rockies. Its area exceeds two thousand square miles of as fine-wheat growing land as can be found anywhere. The surface is level or gently rolling and the soil is a deep, rich, black loam on a clay subsoil. The valleys of the rivers and the outer edges of the district are wooded, but the main area is either open prairie or very lightly covered with bluffs of poplar and brush.

Grande Prairie has been settled within the last eight to ten years. The main prairie and many choice adjoining spots have long since been taken up. Settlement, however, continues to pour into the fringes of the district, where the presence of good soil outweighs the disadvantages of bush and small timber which must be cleared off before the land can be broken. Extensive settlements have been made along the Beaverlodge and Red Willow rivers. Excellent land is found in this section which is one of the most picturesque of Western Canada. Many large farms are already in full operation with the highest grade stock and the most modern equipment. There is still a little good land open for homesteading here but it is fast being taken up.

The Grande Prairie district is reached by a branch line of the Edmonton, Dunvegan and British Columbia railway from Spirit river running southerly to within a few miles of Wapiti river and near Flying Shot Lake settlement. About its terminus has grown up the town of Grande Prairie, which has become the centre of business for the district whose name it bears. It is a thriving western town, and contains three elevators, a flour mill, several good stores and hotels, bank, large two-storey graded school, hospital, churches, immigration hall, creamery, and other enterprises.

The Dominion Lands and Crown Timber office for Grande Prairie Land district is located here. Telegraph and telephone connections with Edmonton and local points are available. A weekly newspaper is published. A board of trade and an agricultural society take a live interest in furthering the welfare of town and country.

Lake Saskatoon, 14 miles west of Grande Prairie, is a small village growing up around the old trading post located on the bank of Saskatoon lake. Its location is both beautiful and historic. In the heart of the prairie, it commands



a sweeping view, for miles in all directions, of waving fields of grain where but a few years ago all was wilderness. Before the building of the railway, it was the distributing point for the district, being the last post on the old Edmonton-Peace River-Dunvegan wagon road. Railway surveys have been projected from the south to this point, but no construction has yet taken place. In addition to the Hudson's Bay, Revillon's and the Peace River Trading Company's posts, there are various other places of business, also a bank, a weekly newspaper, post office, telegraph office, schools and churches.

Bear Lake lies about 9 miles northwest of the town of Grande Prairie, and is surrounded by land in a very advanced state of improvement and high cultivation. Here may be seen vegetable and flower gardens which cannot be surpassed for variety and yield anywhere in the West. Even ornamental and fruit trees and shrubs, grown from seed, are progressing quite satisfactorily.

Smoky and Wapiti rivers have deep valleys heavily wooded, and for some miles on either side of these valleys the land is rough and broken, though much of it is good for grazing. At the junction of these rivers, 20 miles east of Grande Prairie station, is the village of Bezanson, about which the land is very good. North and east from Bezanson there is good land, mostly lightly wooded, extending to Sturgeon Lake and High Prairie.

Clairmont and Sexsmith, on the railway line, are springing up into flourishing little towns in the midst of a well-improved section. Other centres are Kleskun Hill and Glen Leslie, lying between Grande Prairie station and Bezanson, Niobe and Hermit Lake, centrally located, and Valhalla, Hythe, Beaverlodge, and Halcourt, situated towards the western limits of the district.

### **Pouce Coupé**

The Pouce Coupé prairie lies in the south-eastern part of the Peace River block in the province of British Columbia. It comprises several townships of gently rolling prairie and a number with scattered bluffs and light woods. The extent of this choice area is about 25 miles wide by 40 miles long. It is separated from Spirit River and Grande Prairie by high wooded plateaus on the east and south. To the north and west, it extends to the rough wooded banks of the Peace and South Pine rivers. It is reached by a winter road following the railway grade from Spirit river, a road from Grande Prairie by way of Lake Saskatoon, Beaverlodge and Hythe, or a trail from a steamboat landing on Peace river to the north.

The location of the main line of the Edmonton, Dunvegan and British Columbia railway passes through this district from east to west. Grading has been completed from the end of steel at Spirit River to Pouce Coupé village, a distance of about 55 miles, and it is hoped steel will shortly be laid. With railway facilities, this district promises to be one of the finest yet opened. Upon development of the coal and other resources of the upper sections of the Peace, and the completion of railway connection to the coast, undertakings which are but a matter of time, the value of this section will be further enhanced. The principal centres at present are Pouce Coupé and Rolla.



The Pouce Coupé country is an excellent place for ranching. It is an elevated plateau of about 2,400 feet above sea-level, lying immediately to the east of the Rocky mountains and foothills. The soil is very rich, and wild hay and peavine grow abundantly. The influence of the warm Chinook winds is very marked. They sweep through the mountain passes and flood the entire district, from time to time, during the winter, sometimes removing the snow and giving pleasant respites from the cold. Even aside from these warm waves, the winters are short. Stock have been known to pasture out the year round, and the summers are particularly clear and fine. Wheat and all ordinary grains, grasses, and vegetables yield abundantly. The seasons are particularly free from severe storms and hail, and the climate generally is very pleasant.

#### Fort St. John

Fort St. John is on the north bank of Peace river, on a small flat at the foot of steep rugged banks some 800 feet high. It is 178 miles by river above Dunvegan, and lies in the Peace River block in the province of British Columbia. A wagon road from Dunvegan to Hudson Hope passes through it, and there is also a pack trail from Pouce Coupé. It was established decades ago as a Hudson's Bay post. Later, another trading post was opened which is now operated by Revillon Frères. The provincial police of British Columbia have established a station here, and the Dominion Government a telegraph office. There are usually a number of Indians encamped about the post, as this is a rich fur district, and extensive trading is done.

The Fort St. John district which is attracting farmers and ranchers lies north of the river on a high plateau. The land is level, and mostly open or very lightly wooded. The soil is good, and vegetation very luxuriant. Wild grasses and peavine grow in great profusion. The North Pine river lies to the north and east, and enters the Peace about 20 miles below the Fort. Its valleys are deep, and its many tributaries, with their deep ravines, tend to break up much of the country and make it too rough for grain growing. These valleys and hillsides afford good grazing. Taken on the whole, this district is well adapted to mixed farming and ranching. The snowfall is light, and the Chinook winds often keep the hillsides bare nearly all winter.

The district is still remote from markets and civilization, but several families have recently located there, being attracted by the bracing climate and the fertility of the soil. Cattle in large numbers are now being taken in. With the extension of railways and development of the many resources of the upper Peace river regions, this section may be expected to be rapidly settled.

#### Hudson Hope

Hudson Hope is located on Peace river near the westerly limit of the Peace River block. It is the gateway from the great plains to the mountain regions, being at the foot of the Rocky Mountain canyon, where the river bursts through from the foothills to pursue its placid course beyond. In early days, a trading



post called Rocky Mountain House was located at the upper end of the canyon. This was replaced by a post at the foot of the canyon, about which two other trading posts and a few scattered buildings have sprung up. These constitute the present Hudson Hope. Steamboats ply up and down during the open season from the town of Peace River, some 229 miles, and there is considerable travel by canoe from Prince George. This route, by canoe and portage, is approximately 300 miles. A wagon road, some 14 miles in length, leads past the canyon to the upper waters of the Peace, which are navigable for steamers. Various trails lead out to the haunts of the trapper and prospector, for this district is rich in fur and has wonderful mineral possibilities. Great deposits of coal are known to exist above the canyon, and indications of various precious metals are in evidence.

On the plateaus on both sides of the river there is considerable good agricultural land. The soil is sandy loam, and the surface is gently rolling and lightly wooded. A trail leads south 18 miles to Moberly lake, where there is some excellent soil and luxuriant pasture. This lake is filled with whitefish. There is an Indian reserve at each end of it, but very few white settlers.

A number of homesteads have been located about the post, and a few along the river flats between the post and Fort St. John. On these flats, the land is excellent and very heavy yields of grain and vegetables are harvested every year.

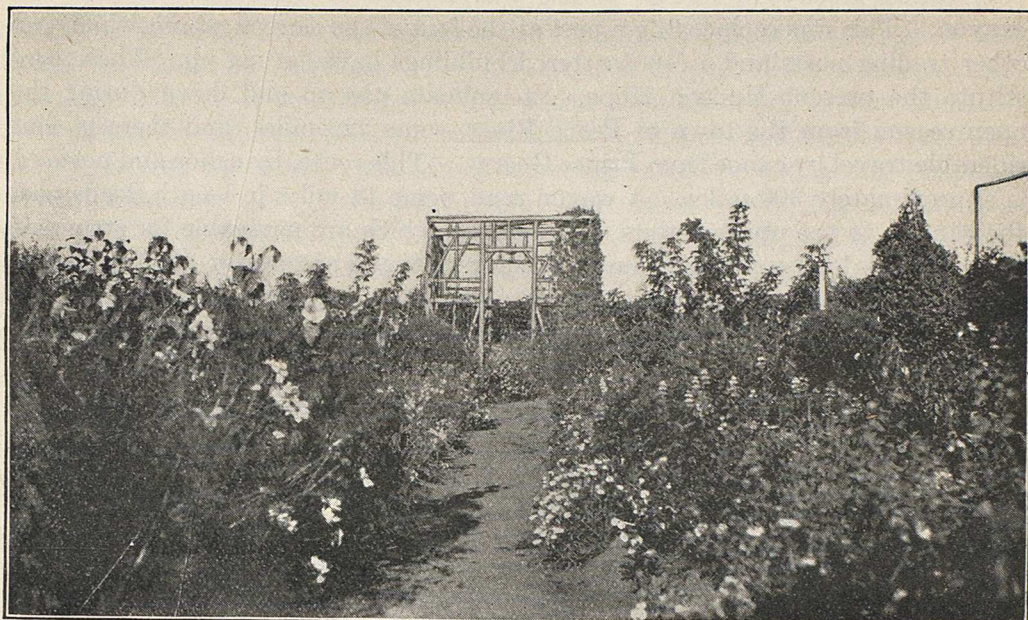
Hudson Hope is now provided with telegraphic service, the Edmonton-Peace River government telegraph line having recently been extended through to it. It holds a very strategic position, and may become an important point when this part of the territory is developed.

#### Fort Vermilion

The last great area of virgin plains still remaining practically untouched by the tide of settlement which is sweeping over other portions of the Peace River district lies away to the north around the old trading post of Fort Vermilion. Last to receive its share of this human tide, and yet first to let the world know of its riches and possibilities, this primitive post still stands guard in the heart of a vast solitude which will soon echo with the busy life of thousands of homes. Beautifully situated on the low, broad valley of the Peace, where the waters are wide and placid and the high steep bluffs have given way to gently sloping banks scarcely higher than the valley itself, the quaint cluster of buildings stands out in bold relief and presents an inspiring front.

Located about 250 miles north of the town of Peace River, cut off from the outside world except for steamboat service during a few summer months, and with its interest focussed on the fur trade of its own great district, the little post has lived its own life and retained its simple customs far from the stress and worry of greater centres. About the post are clustered the Hudson's Bay buildings, including a modern 50-barrel roller flour mill, steam driven and electric lighted, and a saw and shingle-mill; the Roman Catholic mission; to the east,





*Photo by F. H. Kitto, D.L.S.*

FLOWER GARDEN ON EXPERIMENTAL FARM, FORT VERMILION



*Photo by F. H. Kitto, D.L.S.*

VEGETABLES GROWN IN PEACE RIVER VALLEY



the English Church mission; to the western end of the flat, the new post of the Peace River Trading Company; and, on the opposite side of the river at North Vermilion, Revillon's post. Two striking farms, a few miles up river, the Lawrence farm at Lawrence Point and the Jones farm at Stoney Point, have for twenty years been producing all varieties of grains and vegetables. For over a quarter of a century, wheat has been raised about the post, and the possibilities of the district have long since been established. Recently several new settlers have arrived, some of whom have brought considerable numbers of cattle and horses.

For 150 miles along the river, from Carcajou to Vermilion chutes, and extending 25 or 30 miles on either side, lies one of the most fertile plains of the American continent. The surface is level or gently rolling, and the soil is a rich deep loam on a sandy clay subsoil. Many hay meadows are found, and a small percentage of the surface is light muskeg. A few sandy ridges occur, usually covered with jack pine. Much of this area is prairie, but the predominating feature is its park-like nature. Bluffs and small clumps of poplar and birch, with patches of open prairie intervening, or extensive prairies with occasional small poplars scattered singly here and there, are the prevailing features.

Spruce and heavier poplar and cottonwood are found along the waterways. Willow, alder, and other bushes are found on low land, but are not as plentiful as in the Edmonton district. Building logs, fencing material, and fuel can be found within easy distance of any location, while the shelter for stock obtained from the light woods is an advantage the bald prairie does not possess. Most of the land requires but little clearing, and the soil is remarkably easy to break. The choicest park lands comprise over a million acres, while another two million acres of excellent land will require but little clearing to fit it for cultivation. There still remain several million acres of good land, fairly easy to clear or drain, and which, when brought under cultivation, will give excellent returns.

The luxuriant growth of all vegetation, and the rapidity with which it matures, seem remarkable considering the latitude of the district, Fort Vermilion being in latitude  $58^{\circ} 25'$  north. The altitude, however, is low, being about one thousand feet above sea-level, which offsets, to a certain extent, the northern latitude. The length of day during the summer season also hastens vegetation, the summers, though short, having almost continual daylight. Summer frosts and hail are very rare, and total crop failures from any cause are unknown.

The Dominion Government has established an experimental sub-station under the immediate supervision, and on the farm, of Mr. Robt. Jones at Stoney Point, and during the past fourteen years extensive tests have been made to determine the degree of success which could be obtained with various cereals, forage plants, fruits, and vegetables under normal conditions. The results have been most gratifying. On the Sheridan Lawrence farm, a stone flour-mill has been in operation for over twenty-years, and a roller mill has been lately installed. Flour made from wheat grown in this district has been supplied to the northern trade continuously, and great quantities were disposed of to the Klondike miners during the rush of '98. A shipment of 9,000 bushels of wheat was made from the Lawrence farm to Fort William in the spring of 1917. The long haul and high



freight rates were overcome by the high price prevailing at that time. This is not a normal condition, however, and until railway facilities are provided for shipping the grain, this district must find its markets nearer home. The northern trade, rapidly expanding, will provide markets for many years to come.

While the district is exceptionally well adapted to wheat growing, it is also well suited to stock raising and mixed farming. Keeping in view the market possibilities, it should prove an excellent field for mixed farming, dairying, and small cattle ranches. The Keg river valley contains thousands of acres of the finest grazing lands to be found anywhere. The Hay river valleys, Hay Lake prairies, and Buffalo Head hills also contain much excellent grazing land.

The Hudson's Bay Company have outposts at Red River, a few miles below Vermilion chutes, at Hay river and Keg river, and also a warehouse at Carcajou. Revillon Frères have outposts at Hay river and Keg river, with a warehouse at Carcajou. The Peace River Trading Company also has an outpost at Hay river, which is reached by a wagon road running about 100 miles north-westerly from Fort Vermilion. The fur trade at this outpost is very extensive, it being the chief trading centre of the Slavey tribe of Indians, whose hunting grounds extend from Hay lakes to Great Slave lake. Between this post and Great Slave lake are found the wonderful Alexander falls, whose height and beauty rival the mighty Niagara.

Westerly from the post, a pack trail leads about 75 miles up stream to the Hay lakes. About these lakes lies an extensive plain, level and fertile, and producing yearly hundreds of thousands of tons of hay. Much of this area, however, is low and wet and subject to annual flooding, which renders it unfit for grazing the year round. Along the wagon road from Fort Vermilion to Hay River post for the first 50 miles, is found the finest land one could wish to see, Buffalo prairie being a particularly beautiful stretch of country. The divide between the Peace and Hay watersheds is high and stony, and stony land is also found for the remainder of the distance to Hay River post, but it is covered with a luxuriant growth of wild hay and peavine. It is well watered, and would make an excellent ranching district. The well-wooded Watt mountains lie immediately to the west.

A good wagon road leads from Fort Vermilion to Keg River post, and from the post to the bank of the Peace at Carcajou. Along this road, the land is exceptionally good. A little heavy bush is encountered, and many large hay meadows are seen where the Beaver Indians make hay for their horses. For 30 miles before reaching the post, the road runs through one of the finest ranching valleys to be found anywhere, covered with peavine waist high, watered by a good strong stream, and sheltered by woods on either side. A number of townships have been recently surveyed and thrown open for settlement in this district.

From Keg River post, a pack trail runs to Battle or Notikewin river from whence it widens out again to make a wagon road to the town of Peace River. Steps are being taken to cut out this last section of pack trail so as to give a wagon road from Peace River to Fort Vermilion.

South and east of Fort Vermilion, numerous trails lead across the great stretches of beautiful rolling land extending to the Buffalo Head hills and the



Wabiskaw river, where rich grazing lands and valuable timber areas are found. This district has wonderful possibilities and a delightful climate. At present, it is difficult of access, except in the summer time, and cut off from other sections of the Peace River district and the outside world. It is reasonable to expect that within a short time a good wagon road from Peace River will be provided. With a mail and stage service operating on this road the year round, this objection will be removed to a large extent. Railway explorers have been looking over the various routes into the district, and even beyond, as far as Great Slave lake.

Mr. Robert Jones, Superintendent of the experimental sub-station, reports the season of 1920 as being somewhat backward. April, he says, was a cold month, the temperature being well below zero during the first ten days and well below the freezing point on each day during the rest of the month. Snow did not entirely disappear until the 23rd. The first plot of wheat was sown on the 30th, the weather being still quite cold. Young stock could not be turned out to browse until the end of the month, and the feeding period for milch cows extended well into May. The ground did not thaw out sufficiently to do any ploughing during the month. This cold weather extended till May, and on many mornings the ground was frozen so hard that no work could be done on the land until well towards midday. A severe frost occurred on the 21st of May which nipped all grains above ground.

Corn and beans planted on May 11 and 13 were cut down by frost a number of times during the latter part of the month. The first transplanting from the hot-beds was done on May 24.

June also was rather cool and backward, and frost occurred on fifteen nights during the first part of the month. At the close of June, the corn and beans which were left after the severe frost referred to above had made fair growth. The grain crops were looking fairly well, and root crops were getting nicely started. It was noted by the end of June that the crop of alfalfa had been badly spring and winter-killed, as were also some of the grass plots. July was warm and fine and growth was rapid. Grain that was just a few inches high at the beginning of the month had by its close reached the height of fully four feet. By the middle of the month, many of the annual flowers were in bloom, and garden vegetables had been ready for use most of the month. The potato crop promised well, and roots were coming along nicely. Cabbage were in use by the latter part of the month and weighed some six or seven pounds. Cauliflowers weighed about the same.

Haying commenced on the 2nd of August, the crop in the district being very heavy and of excellent quality. The first plot of wheat of the Prelude variety was cut about the 4th. Harvest was general throughout the district on the 20th, all grain crops being very good, but badly lodged on summerfallow in some places, due to rank growth and high winds.

September, usually the most pleasant month of the year, was the opposite this season, it raining or snowing on twelve different occasions. This delayed the finishing of harvesting operations and threshing as well. No heavy frost occurred until the 17th. It was not until the fine weather of the latter part of



October that harvesting and haying operations were completed. The late fall enabled autumn work to be finished in good shape.

The following table showing results of experiments with cereals at the Fort Vermilion substation in 1920, indicates the possibilities of the district.

EXPERIMENTS WITH CEREALS, FORT VERMILION, 1920

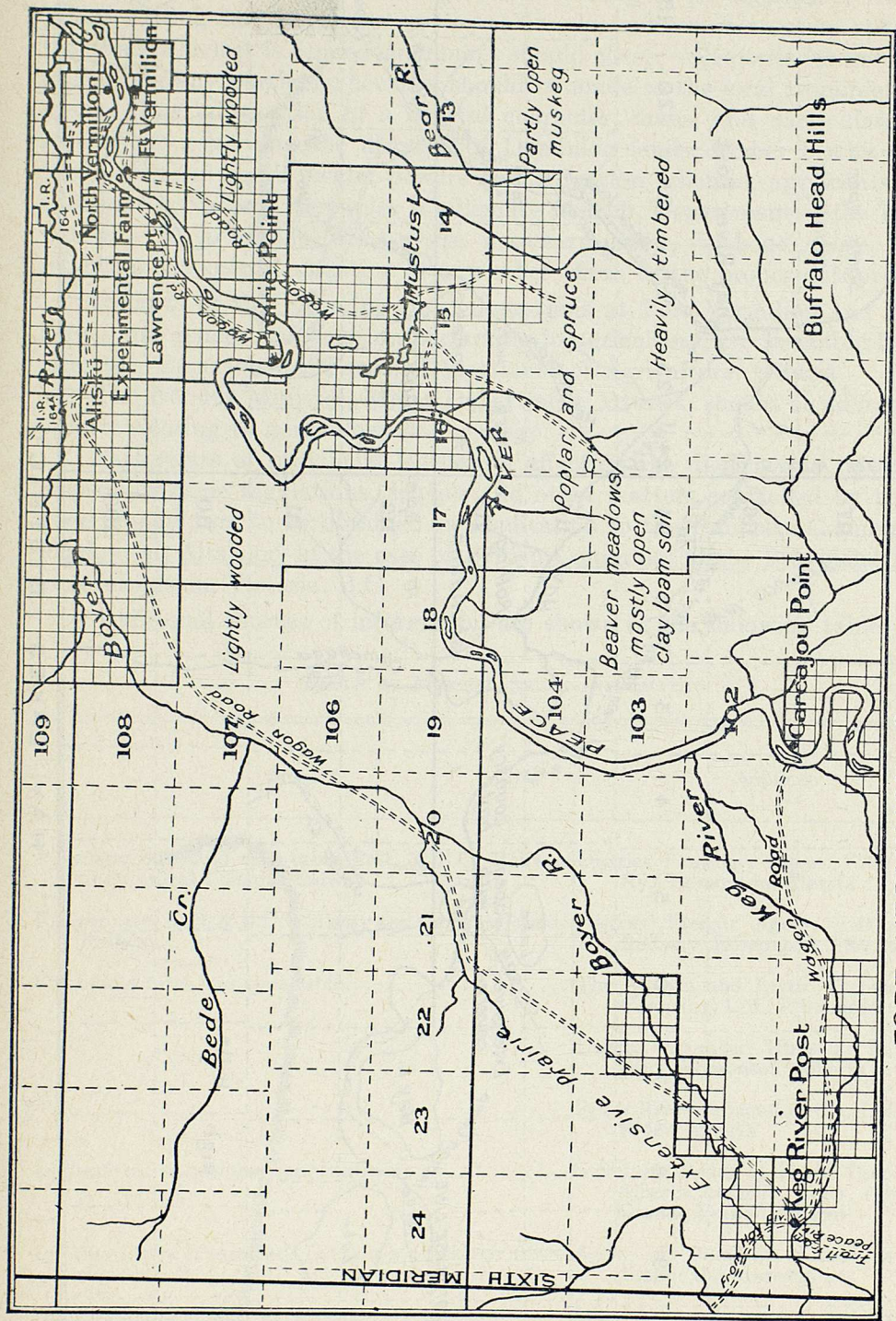
Name	Date of sowing	Date of ripening	No. of days maturing	Weight of straw	Yield of grain per acre	Weight per bush.
<i>Spring Wheat</i>				lbs.	bush. lbs.	lbs.
Red Fife.....	April 30.....	Aug. 21.....	114	5,400	39 ..	61.8
Bishop.....	May 1.....	" 14.....	106	4,300	38 ..	63.0
Huron.....	" 1.....	" 13.....	105	4,680	32 ..	62.3
Marquis.....	" 1.....	" 16.....	108	4,740	35 ..	63.3
Prelude.....	" 3.....	" 4.....	93	3,540	24 ..	62.6
Ruby.....	" 3.....	" 6.....	95	3,840	28 ..	63.1
<i>Oats</i>						
Liberty.....	May 6.....	Aug. 12.....	98	3,600	35 10	49.5
Improved Ligowo.....	" 4.....	" 12.....	100	5,940	66 6	36.0
Banner.....	" 3.....	" 9.....	98	4,800	63 18	37.0
Daubeney.....	" 4.....	July 30.....	87	2,160	37 2	35.0
Eighty-Day.....	" 5.....	" 28.....	84	2,520	38 28	33.0
<i>Barley*</i>						
Albert.....	May 8.....	July 28.....	81	3,420	29 18	45.7
Champion.....	" 7.....	Aug. 6.....	91	3,900	43 46	46.1
Hulless White.....	" 4.....	" 5.....	93	3,600	30 ..	60.5
Manchurian.....	" 5.....	" 3.....	90	3,660	32 24	49.0
Success.....	" 6.....	" 6.....	92	3,960	42 24	46.5
Duckbill.....	" 21.....	" 18.....	89	4,140	46 12	53.7
O.A.C. 21.....	" 21.....	" 9.....	80	4,020	40 ..	46.0
Black Hulless.....	" 5.....	" 3.....	90	3,420	31 32	60.2
<i>Field Peas</i>						
Arthur.....	May 3.....	Aug. 7.....	96	2,280	21 ..	65.4
Prussian Blue.....	" 4.....	" 10.....	98	2,100	19 ..	63.2
Empire Blue.....	" 18.....	" 12.....	86	3,540	34 ..	65.1
Alberly Blue.....	" 18.....	" 20.....	94	3,600	31 ..	65.6

\*Maturing of all varieties was hastened by hot, dry weather in July and August.

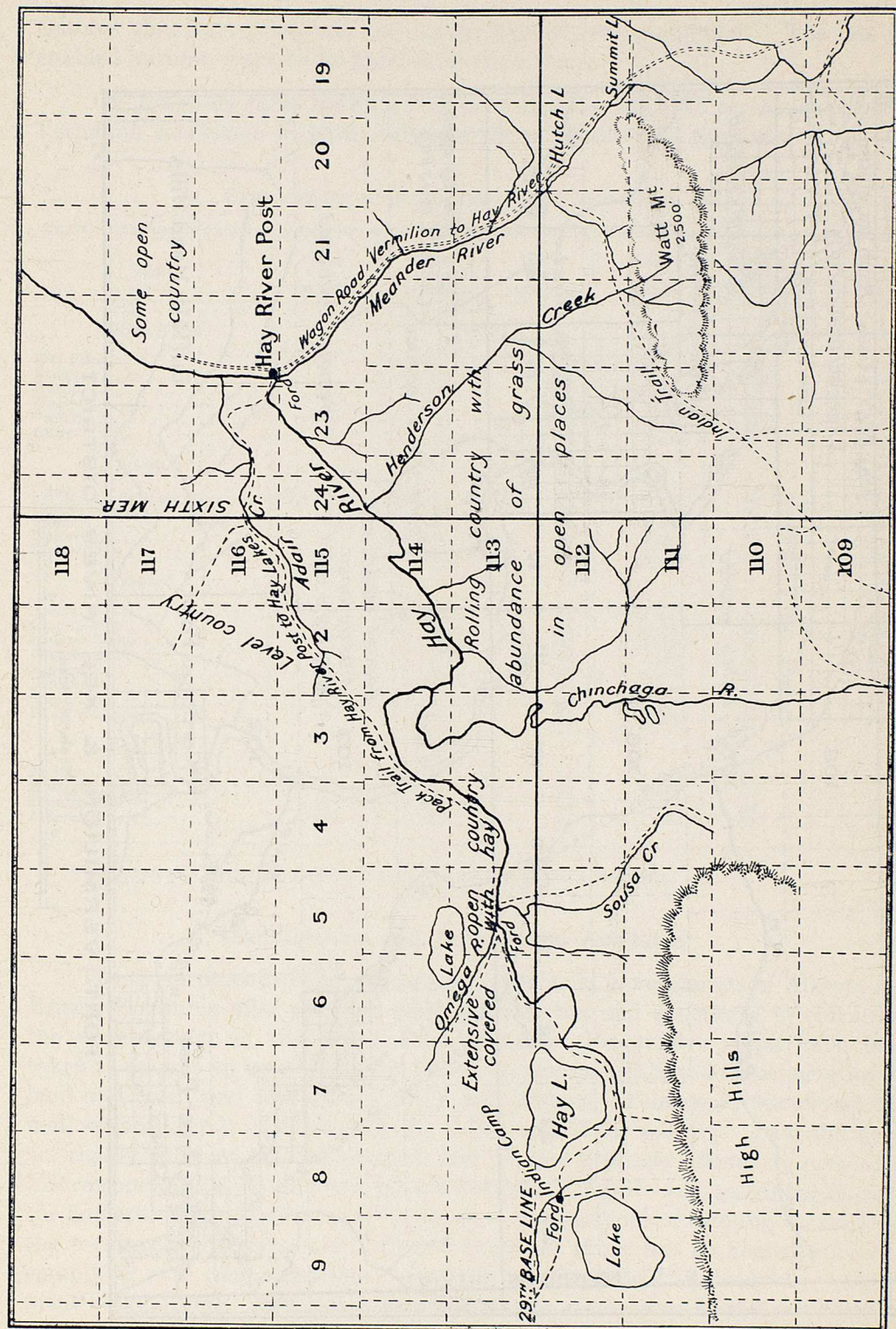
### Publications and Information Available

The Government of Canada and the provincial governments of Alberta and British Columbia offer all reasonable inducements and assistance to encourage the development of the Peace River district. Progressive steps have been taken to open it up by establishing lines of communication and transportation on land and river, and by building roads and bridges. Telegraph, telephone, and mail service keep it in touch with the older parts of the country. Law and order are rigidly enforced and maintained, and life and property efficiently protected. Educational and social advantages are provided. Advice and assistance is given the homesteader in the choice of his location, the methods of farming his land and the securing of his live stock. Crown lands are given free to homesteaders on complying with easy conditions; minerals may be staked and recorded on payment of small fees; and, generally speaking, he who assists in the development of the country may reap his own reward. To those who are willing to undergo a few years of pioneering, the opportunities for success are indeed promising.









HAY LAKES DISTRICT



Various useful maps and publications are available for free distribution, in addition to copies of official regulations relating to the disposal of resources. When writing for maps, the applicant should endeavour to state specifically the scope which it is desired such maps should cover. Requests for information concerning any particular locality should be made to the local Dominion Lands agent. For information of a general character, maps, and particulars of the regulations governing the disposal of Dominion lands, timber berths, grazing leases, mineral rights, water-powers and irrigation schemes, applicants should address the Natural Resources Intelligence Branch, Department of the Interior, Ottawa. This branch will, where necessary, refer, without delay, queries requiring the special attention of any other office, to the proper authorities.

Reports of the Experimental sub-stations at Fort Vermilion and Beaverlodge, and general information pertaining to agriculture, are available from the Director, Experimental Farms, Department of Agriculture, Ottawa.

The Deputy Minister, Mines Department, Ottawa, should be addressed for reports relating to mineralogy and geology.

Particulars of provincial legislation affecting the district and information respecting game regulations, schools and other matters controlled by the local governments, are to be obtained on application to the Publicity Commissioner, Edmonton, Alta., or, in the case of British Columbia, to the Provincial Bureau of Information, Victoria, B.C.

Additional sources of information are shown in the following table:

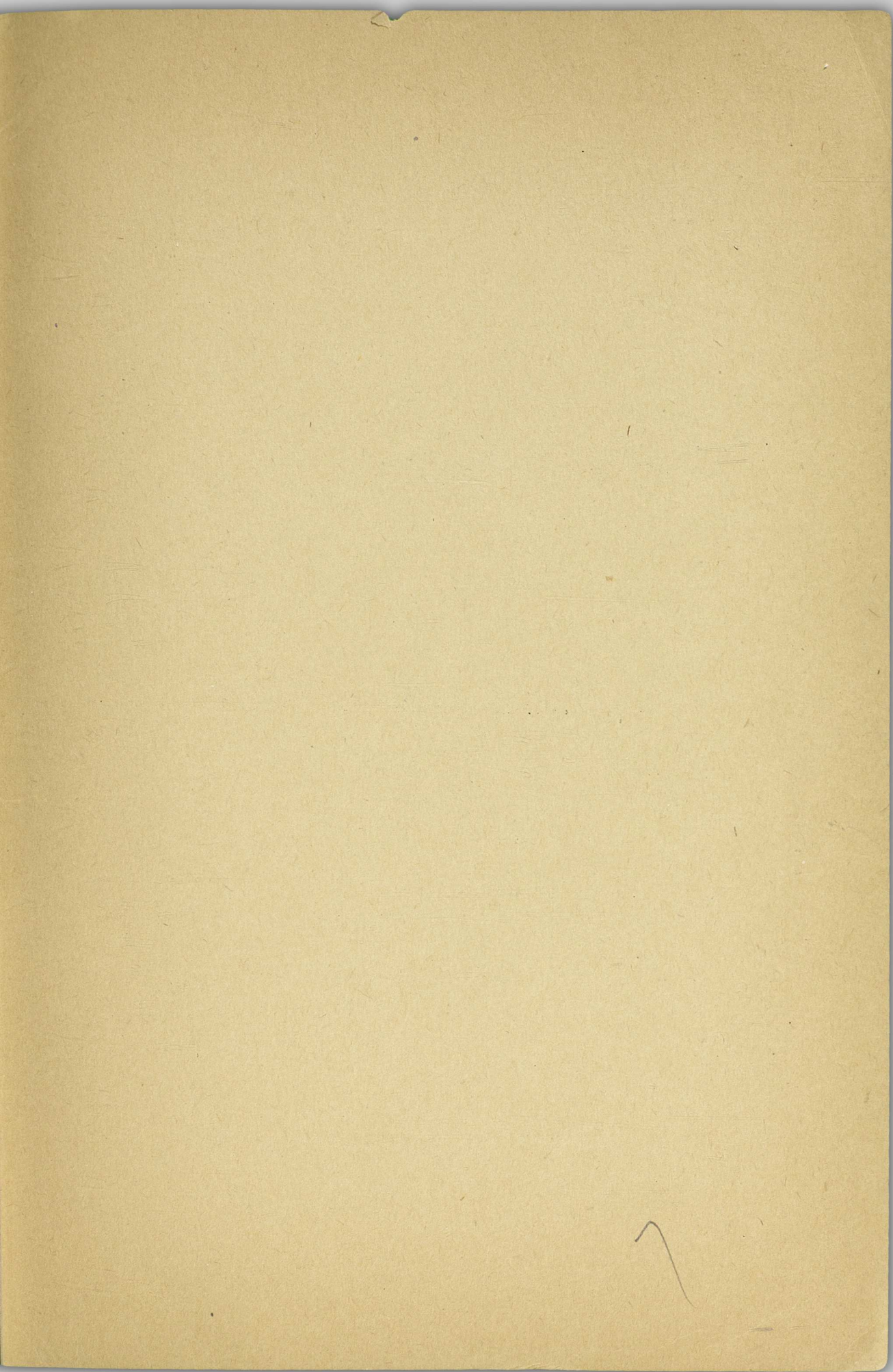
TABLE OF MISCELLANEOUS INFORMATION

Subject	Apply to
Passenger rates and time table E.D. & B.C. Railway and Central Canada Railway	District Passenger Agent, E.D. & B.C. Ry., Edmonton, Alberta
Freight rates E.D. & B.C. Railway and Central Canada Railway	District Freight Agent, E.D. & B.C. Railway, Edmonton, Alberta.
Steamboat rates and time table.....	The Alberta and Arctic Transportation Company, Ltd., Edmonton, Alberta. District Manager, Hudson's Bay Company, Edmonton, Alberta Peace River Navigation Co., Ltd., Peace River, Alberta
Information <i>re</i> business opportunities.....	Secretary, Board of Trade, Peace River, Alberta, or Spirit River, Alberta, or Grande Prairie, Alberta
Information <i>re</i> homesteads open in a particular township	Agent of Dominion Lands in whose district the township lies
Information <i>re</i> soldier settlement.....	District Superintendent, Soldier Settlement Board, Edmonton, Alberta











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